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# The Home Economist

## and The American Food Journal

TREVA E. KAUFFMAN

JULY, 1928

Mary M. Buckley
Emma F. Fetta
Harriet Morgan, M. S.
Florence Juhling McClung
Florence Harris
Lillian B. Storms, Ph.D.

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# THE HOME ECONOMIST

## *and THE AMERICAN FOOD JOURNAL*

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THE HOME ECONOMIST

*and THE AMERICAN FOOD JOURNAL*

# Home Economics Education in the Public Schools

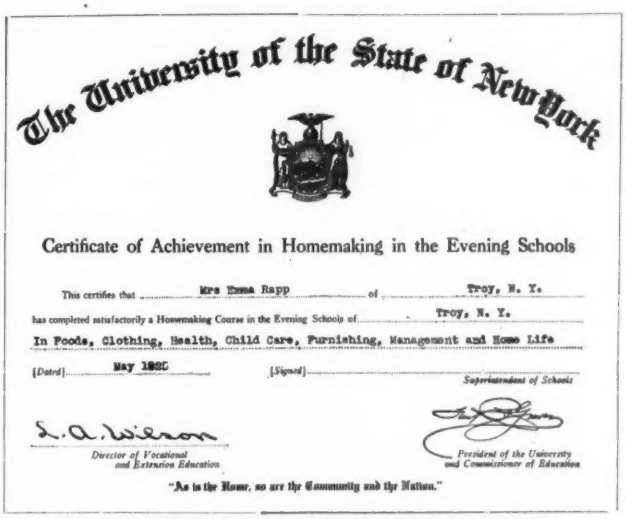
By TREVA E. KAUFFMAN

State Supervisor of Home Economics Education, State Department of Education, Albany, N. Y.

EDITOR'S NOTE:—This is the first of a series of articles dealing with the home economics educational plans of the various states. Articles will be published each month, forming, we believe, a valuable symposium of home economics work for students and teachers alike.

SEVEN years of state supervision in New York State with several in the State of Ohio has brought me into contact with the problems in this field and permitted me to observe the rapid progress Home Economics has made in the public schools during the past ten years. This has only been made possible by the clear thinking and earnest efforts of the pioneer workers in this field. In reading the records of the early work we find many difficult situations arising when attempts were made to introduce Home Economics into the school curriculum.

Our early courses consisted of Foods and Clothing with some emphasis on Sanitation, but they were largely a cooking or sewing course. The large cities were the first to start on this venture beginning with sewing in third or fourth grade and extending through the fifth, followed by cooking in the sixth and seventh.



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This certifies that Mrs Emma Rapp of Troy, N. Y.

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[Dated] May 1928 [Signed] Superintendent of Schools

L. A. Wilson
Director of Vocational and Extension Education

President of the University and Commissioner of Education

"As is the Home, so are the Community and the Nation."

Type of certificate awarded to student who has satisfactorily completed course in homemaking

It was natural that the high schools followed this line of work at a later date. However, in New York State the Academic Syllabus of The University of the State of New York for June, 1895, has a broad and comprehensive program outlined for Home Economics called "Home Science" to be given in the fourth or senior year of the high school. One paragraph from the syllabus is interesting as it sets forth the aim of this work:

"This course presupposes a knowledge of fundamental principles in physics, chemistry and biology. It is planned to require 20 weeks' work of five hours each week, and consists of lessons, laboratory work and written exercises on means of maintaining life and health. Both theoretic and practical work are required in connection with the special subjects which must be considered in the daily administration of every home."

In 1910 the state issued an elementary syllabus in Household Science which covered such subjects as food, clothing and shelter. In 1913 special state aid was granted for a vocational homemaking course in the high school and for evening school courses.

Since this early beginning, Home Economics has had an unusual growth until more than 400 high schools, junior and senior, include it in their program, and nearly all elementary schools include some of it in the sixth, seventh and eighth grades. The part-time or continuation schools offer homemaking to the working girls enrolled, and the adults are reached through a comprehensive program organized in the evening schools.

With the development of the junior high school a reorganization of Home Economics courses is taking place. The field has been broadened to include short unit courses in Meal Planning and Serving, Food and Nutrition of the Girl, Clothing Needs of the Girl, A Study of Girls' Bedroom and Home Furnishings, Health and Home Nursing, Child Care, Efficient Equipment of the Home, and The Home and the Family. A survey of what the girl does in her own home has formed the basis of these courses. Here the teacher keeps in mind the activities in which the girl is engaged in her own home and plans her course to meet these needs. The work is usually required for one double period or two single periods per week throughout the seventh and eighth years.

As stated above, in 1913, special state aid was granted for a vocational course in homemaking in the high school. This is a four-year course and leads to an academic diploma in vocational subjects.

Homemaking is studied for a double period each day, throughout the four years, together with a home project related to the work of the year. Six units are granted in homemaking for the four years. Besides the homemaking, the regular academic subjects of English, civics, history, science and mathematics are required. Approximately 170 high schools maintain such courses and 8,313 girls are enrolled.

The aim of the course is to train girls as future homemakers, for more worthy home membership, and leaders of this movement in their respective communities. The following home project written by one of the girls in this course might lead us to believe we are accomplishing this:

The project I did that I enjoyed most and that proved most beneficial

was for Interior Decoration. The project was worded like this: "To do over one piece of furniture in your own home."

For quite a long time I had wanted a library in one of our upstairs rooms. My people kept telling me that they could not afford new furniture for it, so until I learned how to do over furniture, I thought it was impossible to have such a room.

**Homemaking problem—reclaiming old furniture by High School girls in Hutchinson Central High School, Buffalo**

After our teacher had taught us how to scrape varnish off (sandpaper and varnish remover) and how to varnish it with fresh material I began to look around for old furniture. I found a very valuable old table that my great grandfather had made, which my mother was now using for a milk table. I sandpapered it until all spots and varnish were off. Then I used Valspar. I sandpapered it four times and the result was a beautifully, smooth, shiny surface. For a bookcase I did over a wardrobe that had stood in the barn for several years. My Dad put shelves in and I gave it the same finish as the table. I morescoed the room in tan and put a brown paper border near the ceiling. I painted the woodwork a deep mahogany brown and the curtains were white with an inset of brown (figured) cretonne near the bottom. The floors were polished, and so Mother and I crocheted rag rugs from remnants of dresses, etc.

The problem I solved was that of making an attractive library from supposed junk and little cost. The reason, as I have said, for doing this was that we could not afford new furniture. My reason for sandpapering the furniture so much was to obtain a smooth, glassy appearance.

The results have improved our home life inasmuch as we have a quiet pretty room in which to read, write, sew or rest. The room is at the head of the stairs and now we are proud to leave its door open whereas we used to keep it closed.

A large number of girls enrolled in the academic, classical college and commercial courses find time to effect some Home Economics. These courses are set up for a half unit credit and a girl has usually elected one or two from the following: Food and Nutrition, Clothing and Design, Home Furnishing, Home Nursing and Child Care, Home Management, or it may be a general appreciative or survey course of the entire field. About 175 schools maintain these courses with an enrollment of 10,376 girls.

A new type of education was introduced into New York State, when the part-time or continuation school became a part of the educational system in 1920. Here boys and girls out of regular day school and at work between the ages of 14 and 17 years were required to come to school for four hours a week wherever there were 200 such minors. A large number of girls employed in factories, stores, offices, and at home are among the members who attend. In 1926-27 there were 70,209 girls enrolled in these schools in the state.

The majority of the girls are in homemaking classes for the two hours, and for the remaining two hours are instructed in English, civics, arithmetic and hygiene. Here the homemaking is taught to meet the girls' needs, problems of the girls' nutrition are studied, together with planning, preparing and serving simple meals. Her dress and clothing needs are approached from the standpoint of making them an asset for her position, while her health is considered from the same angle. Her relation to her home and how she can improve it is also given special attention. Helping her to wholesome recreation and how to get the most value from her money expenditures have not been overlooked by the teachers.

The follow-up program consisting of visits to the home has enabled the teachers to ascertain needs and accomplish results. Some of the older girls in the schools marry early, so our work has centered around the home, its furnishings, its upkeep, care and training of children, planning and serving simple meals for the family, entertaining in the home, and home and family life. One of the girls in the report following tells of her experience in the school.

> Having been in your school for three years, I feel a little pang of regret at having to leave it. I received a position through the Employment Bureau of the Continuation School when I first came here and still hold the same. My introduction to the school was through the Personality Class. I found this poem in a magazine and I am copying it for I think it explains better than I can the aim of our work in the Personality Class:
>
> "It is not what you know which will carry you far;
> It is not what you can do, but it is what you are.
> Improve your mind! Yes, with books on the shelf,
> But give time and thought to improving yourself."
>
> Continuation School has taught me to save, something I could never do before. I have had a bank account in this school since the first day I came here. I am going to continue saving and become a systematic saver in a large bank.
>
> I was always rather timid about cutting a dress or any sort of underwear. I worked at dressmaking and being timid made it very difficult for me. When I was transferred to the sewing class I was taught to cut out a chemise by measurements. Even though a chemise is not very difficult to cut, it helped me to be more sure of myself and encouraged me to make a slip and other things. I am now able to make most of my own clothes and am better on my job for this experience.
>
> I baked my first cake in Continuation School. I also learned how to cook and prepare dishes I would never have thought of. We were taken down to Wanamaker's to see the model kitchens. We learned other things about the home in the House the Budget Built.

I have often been asked about Continuation School and I have been glad to boost it. Not because I was told to, but because I felt what I said. I have been in many a hot discussion about Continuation School and I guess I have changed the opinions of some of my friends and coworkers. Some people have the opinion that girls cannot learn anything in four hours. I insist that girls who come to school with the intention of learning will always find plenty to do if they want to do the right thing.

I for one am glad I came to continuation school because it put me in touch with some of my school chums, helped me "find myself" and taught me many things I will never forget. I certainly feel sorry that I am leaving. Many thanks to you and my teachers and with best wishes for the future.

Adult education has taken on a new impetus since we are beginning to feel that education is a continuous process. Therefore, many women and girls are interested in pursuing courses in homemaking in the late afternoons and evenings to train themselves for better homemakers, and to learn how to live more abundantly or appreciate better living.

This work for the adult woman was begun as early as 1902 in New York City and 1910 in Ithaca, N. Y. The early courses consisted of sewing, dressmaking, millinery and cooking. As the conditions in the home have changed quite rapidly during the past six years a new development has come with the program offered in the evening schools. Problems confronting the homemaker are studied, and the State Education Department has set up a homemaking course covering the minimum essentials of the homemaker's job, which leads to a state certificate. The course as planned follows:

COURSE I

*For Homemakers and Prospective Homemakers*

This course is organized to meet the needs of homemakers and prospective homemakers. It includes carefully planned units of instruction in all of the major phases of homemaking. Students who successfully complete the course or the equivalent will be awarded a Certificate of Achievement in Homemaking, issued by the State Department of Education.

*One Year*

Food: Meal planning, preparation and serving, 1 unit, 12 lessons.

Nutrition and child feeding, 1 unit, 12 lessons.

Clothing, selection, care, cost and construction, 1 unit, 12 lessons.

Advanced clothing (dressmaking or children's clothing or millinery or design), 1 unit, 12 lessons each.

*One Year*

Health of the family, 1 unit, 12 lessons.

Home nursing, 1 unit, 12 lessons.

Training and care of children, 1 unit, 12 lessons.

Home life and hospitality, 1 unit, 12 lessons.

*One Year*

House planning, 1 unit, 12 lessons.

House decoration and furnishing, 1 unit, 12 lessons.

House management: the income, 1 unit, 12 lessons.

Home management: the house, 1 unit, 12 lessons.

COURSE II

*For Business and Professional Women*

This course is developed to meet the personal and avocational needs of business and professional women. It is recommended that a *school* certificate be granted on the completion of the course. The courses starred may be substituted in the homemaking course for a state certificate.

*One Year*

*Food: the supper and luncheon, 1 unit, 12 lessons.

Food: the dinner and special occasion, 1 unit, 12 lessons.

*Clothing: garments, 1 unit, 12 lessons.

*Millinery and accessories, 1 unit, 12 lessons.

*One Year*

Personal hygiene, 1 unit, 12 lessons.

*Home nursing, 1 unit, 12 lessons.

*Budgeting the income and recreation and efficiency of time, 1 unit, 12 lessons.

Hospitality and entertaining, 1 unit, 12 lessons.

*One Year*

*Related art to clothing and home, 1 unit, 12 lessons.

*Three elective units from course 1, 3 units, 12 lessons each.

The plan for these courses, together with the suggested content, have been outlined in a bulletin issued two years ago. Since then several communities have issued the state certificate. Thirty women have received it and considerable interest has been created in establishing work in the evening school that will help in making better homes. About 40 communities maintain homemaking courses in 500 centers with approximately 1,000 teachers and 18,480 students.

During this period of growth of Home Economics, changes have come about in the space allotted to the work and the equipment used. The equipment selected and used is beginning to resemble that of the home, and the space given to a department of Home Economics in many new schools has increased from two rooms equipped in a formal way, to the space of three rooms arranged informally as a school kitchen equipped with four or five unit kitchens, the same as you would find in an average home, a breakfast nook, an apartment consisting of a living dining room, a home kitchen, bedroom and bath, and a clothing room with a fitting room. Ample storage space is provided and sometimes a small laundry. Some communities have provided a practice house instead of the apartment in the school building. All furnishings in the house or apartment are usually selected by the girls in the classes as a part of the instruction. The aim is to have it artistic, simple and inexpensive.

**Junior High School girls studying labor saving equipment for the home, in cooperation with the Home Service Department of a light and power company**

(Continued on page 206)

# Home Economics in Relation to the History of Education

By MARY M. BUCKLEY
Supervisor of Domestic Science, Paterson, New Jersey

MY only justification for discussing this subject is my desire to search for the roots of experience that have helped to educate those human beings who have been the homemakers of the race. Education may be the means by which the adult members of a social group develop the coming generation along the lines of their own ideals of life, or, according to Mr. Duggan, "the means by which nations have attempted to realize their social and spiritual ideals," or is it individual power gained from personal experience which, guided and controlled, leads to harmonious, serviceable life? By far the largest part of our knowledge comes to us through the channel of the informal experiences of life rather than from the formal.

In looking over the field, I found that formal training was not provided until the sixth century. Because of this I will endeavor to trace the informal, unconscious education of the girl through the various periods of history and indicate the home atmosphere and the influence the various movements may or may not have had.

THERE has always been a demand for food, shelter and clothing and social intercourse. In the primitive life, need and emergency decided many things in the daily routine. For self-preservation these early people formed groups and evolved habits and customs—"Folkways"—Mr. Hart calls them. Necessity divided the labors between the sexes. Women became the fire makers and hence the keepers of the hearth, the mothers and the teachers. Through observation, imitation and participation the girl learned from her mother or elders the arts of cooking, weaving, basketry, skin dressing, pottery making and the preservation and storing of food. She also learned simple agriculture and the domestication of animals. Her experiences were practical.

As the primitive groups grew and racial customs developed, we find the girl following the folkway of her people. Because of the requirements of fulfilling the Talmud law, the girls of the Jewish race had to have training to conduct their households in accordance with the ritual. This training was designed for a special sphere—the management of the household. The girl of every rank in life was taught cooking, spinning, weaving, the making of garments and the business of the household. "Her price is above rubies, for she looketh well to the ways of her household and eateth not the bread of idleness," sang Solomon in praise of her. Participation in the family circle and the well defined social, religious, educational and economic functions made her capable. The atmosphere of the Jewish home engendered respect for the elders, a high morality and allowed for growth and development of strong character.

IT is to be regretted that when Greece was awakening to and passing through its most influential period she did not do something to elevate the condition of women. Plato suggested this to the intelligent men, but they did not see. "The daughter of a free citizen received training in domestic economy at home; her education did not usually extend beyond this." "Another momentous occupation devolved exclusively on the women—the nursing and care of the sick, not only of their husbands and children, but also the slaves." Xenophon. "Daily provisions were generally prepared under the superintendence of a mistress by her female slaves." The above serves to show us the type of training the girl received under the constant tutelage of her mother. "They spent a great part of the day with their daughters and slaves in a specially appointed part of the house, where the looms were set up. Here the wool was washed, beat, pulled, carded and spun. All the linen and garments for the family and slaves were made." Blumner.

The girls of the slave class in Greece learned informally, by contact with people and things. In the home, on the street, in the market, in the country, at the water fountain, the child's early education was unconsciously furnished. The following quotations will give some idea of what these girls participated in. "Damsels with bread and cakes, others with chaplets, offered their wares to the loungers." "Women and female slaves that were early going to fetch water from the market." "The female bakers had piled up their round shaped loaves and cakes and were pursuing with a torrent of scolding and abuse the young wight who happened in passing by to upset their pyramids." "There simmered the kettle of the women who sold boiled peas and hot vegetables (sold hot to the poor)." "Buxom flower weavers received orders for garlands. Some hovered about a pretty shop woman." Cheese was made from goat's and sheep's milk and used to add savor to the daily meal. Here, as in the primitive life, there was no real home life for the daughter of the slave. The conquering of Greece by the Romans led to a change in ideals.

WE now turn to a country (Rome) where the women occupied a position of dignity and importance, but their place was in the home. Girls were carefully educated by their mothers. Even Marcus Aurelius thanks the gods for a mother who taught him "piety and beneficence and abstinence, not only from evil deeds, but from evil thoughts, and further, simplicity in my way of living far removed from the habits of the rich." And he thanks the gods for a "good sister." By her mother she was initiated into the mysteries of the household economy, and fitted to take her place as the mistress of a household of her own, to be a Roman matrona, the most dignified position to which a woman could aspire in the ancient world. The girl remained her mother's constant companion. From her mother she learned to spin, to weave and to sew. Even Augustus wore garments woven by his wife. The first and only reference so far I have found showing any training in table service was "the table was set in the antrum and the father, mother and children sat around it on stools and benches waiting upon each other and their guests."

ALL the above illustrate very different family life from those mentioned before. There is freedom in the home atmosphere. But here again, it was only the free Roman citizen that had his own house and the right of citizenship. Wealth and opulence influenced some mothers to turn their children over to nurses and their household duties to slaves, and the home atmosphere was not always a standard for growing girls. Later we find "only in the homes of the middle class were the daughters given the old training in the use of the spindle and the loom."

Since only the wealthy lived in separate houses, the poor lived, ate and slept in huge lodging houses called islands (insula) three or four stories high. The ground floor was given over to shops, the upper floor to single rooms with small windows looking out to the street or porch, regular "rabbit warrens."

No wonder there was pestilence, due to overcrowding in the unfashionable quarter of Rome. No wonder Rome fell before the Gauls. Here the girl must have gotten her education

from the things she heard and saw —on the street, in the close living quarters, in the market and in the home of the well-to-do as a worker.

IN the country the poor man had his hut, his garden, his goats. These provided the necessities for his family. Life here for the girl must have compared to the primitive. She worked in the garden, made the cheese, wine, and helped in the home. It was drudgery, yet offered more freedom than her sister had in the city. But she was to feel the heel of Rome, when the peasant became the serf, bound to the land, sold like a slave.

With the coming of the barbarians from the North we find ourselves seeking out the source of their youth and freshness. We find that each Teutonic family, like the early Hebrew or Greek, was a unit, but here all were free men. Home was the center of all industrial activities carried on by the wives and daughters. The girl was taught the preparation of food and drink, to make candles, soap, woolens and linens; also the arts of dyeing and embroidery. This she learned to do by doing, by participation, and through instruction by the older women of the group. The girl was taught for economic reasons to be a producer in the home, to make her dowry and to be desirable as a wife. These activities are duplicated in the feudal times by the daughters of the yeomen or free farmers. As commerce and trade and industries grew, cities and towns developed, and as riches increased, the daughters of the burghers took on the desires and attitudes of the nobles. Some of the daughters, marrying into this class, helped to break down barriers and learned the refinements and manners which they in turn taught their daughters.

FROM the sixth through the twelfth century the girls of noble birth were sent to convents. This gave distinction to those who were fortunate enough to receive the training. It was largely moral, but spinning, weaving of woolen and linen and artistic needlework were taught. It was in such schools that the arts were preserved to become popular a few centuries later.

The wife and daughter of the lord had to be ready to meet any emergency from making her clothes to defending her land. She taught her ladies the art of courtesy, hospitality and management of the fief. Here the spirit of "noblesse oblige" developed and was carried on to our day. Some of the nobles sent their daughters and wards to nunneries like Carrow and Dartford. Here they were taught the arts of sewing, weaving, music, Latin, song, and the elements of medicine and first aid. The girl had plenty of opportunity to use these when she returned to the "bower."

The Renaissance, which wrought such wonderful changes in the world did little or nothing to change the position of woman; her training was in household duties, and can be said to be both varied and thorough. No girl was held to be ready for matrimony who could not spin and weave, make and mend clothing, cook and brew and attend to the sick. Even the daughters of the highest nobility received some of this training.

ANOTHER point of view, coming from Italy, "the girl found inspiration and developed a conscious power of interpreting thoughts and feelings embodied in the forms of beauty about her. Beautiful needlework was not only prized, but taught in every household."

The court of Charles II of England thought that girls were educated enough "if they could spell out the recipes of pies and puddings, the manufacture of which nature had entrusted to their tender mercies."

The Renaissance and Reformation did not affect the life of the girl of the time, but the movements did produce thinking, and here and there a few experiments were tried out that later became influential. Luther decided "a girl had time to go to school an hour a day for her soul and yet had time to attend to her work at home." Comenius advocated the educational value of household activities. The Philanthropists in England and on the Continent, because of their work and study of the condition and ignorance of the poor, gave strong expression to the belief in the need for training for better homemaking. Pestalozzi believed in the household activities for educational experience, and Fellenberg actually established a school for the practical education of girls in the middle class occupations.

The eighteenth century drew to a close with no apparent change in the old folkway as regarded the formal education of the girl in this field.

THE urge for freedom of speech and religion that sent the various colonists across the ocean to new lands had its effect on education. Schools and ideals seemed to be patterned after the old, but underlying the whole structure was the frontier spirit that could not be downed. Then came the French Revolution and our own American Revolution which brought about the establishment and growth of a bigger democracy. Women inherited and owned property, daughters, in some places, had equal rights with sons. Does this affect us? Yes. Daughters grew up to be citizens, to take an interest in the affairs of the community, state and country. But with the development of commerce and industry, many of the activities formerly carried on in the home were transferred from the home to the factories and the women and girls followed, except in country districts. This meant that for a number of years the middle class was receiving very little training, at home or anywhere else, in homemaking. They were too busy working ten to twelve hours a day, carding, spinning and knitting in the big mills, without proper nourishment for soul or body. We still have some of these today in the country. For the upper class there were the finishing schools, which had cooking, laundry work, housewifery and needlecraft in their curriculum, but which, with few exceptions, sent out a superficial girl, not adapted to the world she had to face.

IN the latter part of the nineteenth century women had entered higher schools of learning, laws hampering their economic and legal rights were being adjusted, and they were interested in public playgrounds, social betterment and improvement of sanitary conditions. With a knowledge of conditions of everyday living, and the intelligence to act, the women in cities organized schools for training girls and women in the arts of home. Through public demonstrations and lectures they aroused interest, then came the demand, on the part of the public, to have such training included in the public schools. There has been a steady growth, with varying changes to meet new living conditions, and advancement in educational ideals. I feel too that Spencer influenced the minds of the educators by his attack on the traditional curriculum, and his belief that what is worth while is that "which prepares for parenthood and that which prepares for the miscellaneous refinements of life."

The subject has followed three stages in its development. First, practical; second, scientific and artistic; third, economic and socioligical. The great war accelerated the latter phase because of the findings as a result of the preparation for war, and the results of war. The study showed the mental and physical conditions, and these were not pleasant to face. They did, however, serve to increase an interest in the family. The family is studied in our schools from the sixth grade, where the girl learns the value of her participation in simple home activities, to the college student, who studies its economic, biological and sociological need and development. Some institutions and school systems have gone so far as to include boys and men in the courses in home

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# Convention Notes

By JESSIE A. KNOX

IF you feel that you have gotten into a rut with your teaching; if your own particular problems seem more than one person should be called upon to solve; if you suspect that you are out of touch with things, this editor's advice is that you never fail to attend the national meeting of the American Home Economics Association — no matter how far from your home it may be nor how much sacrifice you have to make to get there, it will be worth it. Each year's meeting is said to be the best, but we are sure that the one held at Des Moines, Iowa, during the last week of June surely surpassed all others. Those of you who were there will agree; those who were not, take heed and plan to attend when next June rolls around.

Since neither time nor space permits us to go into much detail in this issue, we will summarize briefly what we felt were the high lights of the convention. All of the programs were exceptionally interesting—in fact, delegates were hampered by their inability to be at least three persons on most days, as meetings were held simultaneously on subjects that were equally promising of interest and information.

Perhaps the most valuable and inspiring thing in a convention of this sort is the broader vision that one gets of the great growth of the home economics movement and the increasingly important place that it holds in the educational system of today.

Among the most important developments are those of the textile field, in child development and in home economics extension work. There were, of course, a great many other interesting points, especially in the report of the work in home economics research in food and nutrition; in the activities in the student clubs and in home economics education.

*The Textile Field*

Miss Pauline Beery Mack of Pennsylvania State College, spoke of the important progress that had been made in furthering co-operation among groups of textile manufacturers and the schools. Testing laboratories are being maintained by a large number of factories, and research along these lines is being done in several schools. Announcement was made that the fellowship granted by the Textile Section had been awarded for the coming year to Miss Jessie V. Coles. Miss Coles was graduated from Iowa State College in 1924 and for the past four years has been on the home economics faculty at the University of Missouri. During this last year she has been studying at the University of Chicago under Dr. Hazel Kyrk.

The Textile Section had a most interesting exhibit of old textiles and of educational material that had been prepared by several of the high schools and colleges. A group of old textiles that had been put together in a book and sent from the Kansas Agricultural College, was perhaps the most individual item of the exhibit. This included samples of fancy waist coats worn by gentlemen in 1800; some cloth trousers imported from England as part of the wedding outfit of another gentleman in 1836, and some handmade table linen brought from Wales in 1830. The exhibits from the schools were especially interesting. The Southside High School, Grand Rapids, Michigan, showed a number of posters illustrating block printing, colored designs in cloth dyed posters, progress in weaving, and a series of charts showing the making of a tailor made dress with all the details from the selection of design, color, pattern, details of finishings and trimmings. There were also charts and illustrative material showing the manufacture of silk stockings, and of gloves, the making of pins and buttons, and of rayon, cotton and wool from their raw materials. There was other valuable material from the Home Economics Department of Davenport, Iowa, from the University of Illinois, from Kansas Agricultural College and from the Research Department of Antioch College, Ohio. This latter department has developed a line of hygienic shoes which certainly look to be the acme of foot comfort.

THE HOME ECONOMIST is glad to announce at this time that we have been able to cooperate with the Textile Section in offering teachers a complete bibliography of the commercial material and exhibits that are available for teacher helps. This will be published in the September issue of THE HOME ECONOMIST and we are sure will be a valuable aid to all teachers and students of textiles and clothing.

*Home Economics Extension*

Mr. C. W. Warburton, Director of the Extension Service of the United States Department of Agriculture, talked on the interpretation of the Smith-Lever Law. This was the law under which the extension service was founded. It was, as most of you know, enacted in 1914, and provides for a system of cooperative extension work in agriculture and home economics to be conducted by the Federal Department of Agriculture. There is now an extension service in each state with a total staff of nearly 5,000 trained persons. Resident home demonstration agents, supported jointly by state and county or local funds, are working in more than nine hundred counties. These home demonstration agents work under the supervision of forty-five state leaders and eighty-five district agents who also do much home demonstration work in counties where no resident agent is employed. Mr. Warburton spoke also of the Smith-Hughes Act in 1917 which he says complements the Smith-Lever Act and provides for regular instruction in courses in home economics, agriculture, trades and industry. There should be no conflict between the workers under both of these laws even where both are employed in the same community, as the difference between extension work and vocational work is one of methods rather than subject matter, according to Mr. Warburton. The extension worker meets her classes seldom but is able to give them quite definite and specific help. The vocational teacher, on the other hand, while handling the subject in a more general way, is able to keep a closer contact with her groups because her teachings are continued over a long period of time. The passage of the Capper-Ketcham Act should be of great help in the development of the 4-H Club work and home demonstration work as it makes available for this service an additional million and a half dollars.

Miss Neale S. Knowles, chairman of the Home Economics Extension Section, pointed out the fact that there are 200,000 girls and 300,000 women who have been helped by home demonstraion agents during the past year. According to Miss Knowles, greater stress and more time have been spent on food and nutrition work among these women and girls than on clothing.

The extension workers held their various conferences on Saturday, June 23, and on Monday, June 25th, before the meetings of the other home economics groups. Their program was one of great interest throughout. We will try to give you more detailed accounts of the various programs later on.

*Food and Nutrition*

According to Dr. Louise Stanley of the United States Bureau of Home Economics, the recent developments in food and nutrition show that the public is utilizing the contributions of home economics research to an ever increasing degree. Dr. Stanley feels that there will have to be a revision made on the study of vitamins and that Vitamin B is the most important one of all because it is both antirachitic and antiberiberi. Dr. Stanley advises that all home economics women who are inter-

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# The Story of Textiles

## Supplementary Reading for Classes in Clothing and Textiles

### Rayon—Its History and How It is Made

By EMMA L. FETTA
Rayon Institute

LESS than forty years ago a nameless product of almost intangible origin presented itself to the world. It was the first entirely new and distinctive textile in some 4,000 years of known history.

That rayon started life without a name is due perhaps to the fact that the ambition of its inventor was to find a substitute for silk. He surpassed himself, and gave to the world a new textile, but the world was not ready to accept it as such. Rayon had to prove its worth, and for this purpose it has been working its way into our lives incognito, as artificial silk.

In this, it has paralleled the history of cotton, which was introduced to the world as a sort of wool. Even as late as the Middle Ages, it was commonly conceded that cotton was a wool that grew on trees; today the German name for cotton is Baumwolle (meaning tree wool). Its original name, Kupas, still survives in India, while in Arabia it was called "Qutun," from which is derived the word "cotton."

But rayon is not silk. Its origin and manufacture are as different from silk as silk is different from cotton. Rayon is fiber—but so are silk, wool, linen, cotton and every other textile known to man.

Recently the film of ambiguity and confusion was removed by the selection of a generic term for this generic textile. The Department of Commerce, the Silk Association and a group of editors finally decided upon "rayon" suggestive of a distinctly different fiber with qualities of its own, a decided quality of sun-fastness! The sun can smile with the full strength of its warmth and brilliance without disastrous results.

Its steadfastness of color, combined with brilliant or dull luster as needed and other qualities of versatility has found for rayon a legion of uses.

For five thousand years the little silk worm has been furnishing humanity with its finest raiment. It has plied its trade faithfully and well, and has won for its product a renowned position as the only fabric for occasions of moment.

A cotton tennis frock gives prestige and fashion value when rayon is interwoven in the fabric. This tailored tennis dress is composed of fifty percent rayon and fifty percent cotton

No one had ever questioned the dominion of silk, until, perhaps as long as sixty years ago, certain French chemists undertook to duplicate synthetically the results of the silkworm.

This ambition has not been realized, but instead, humanity has been served by the invention of an entirely different fabric, one that has been deemed worthy to associate with silk, and is, in fact, combined with silk in many of the exquisite materials of today.

Even in France the actual invention of artificial silk is somewhat obscure, credit being given to both an international known chemist named Reaumur, and to Count DeChardonnet, who secured the first patent in 1884. In tracing the footsteps of the early research workers whose efforts resulted in this patent, however, we find the real romance of rayon.

Observations of the fact that the silkworm feeds on cellulose in mulberry and oak leaves led to the rayon industry of today, as the basis of all rayon fiber is cellulose. In attempting to compete with the silkworm, and to duplicate its process, experiments were concentrated on the same ingredient that the silkworm used—cellulose.

The result, rayon, is like silk in some respects, but has many differing characteristics, due mostly to the fact that the silkworm produces an animal fiber, whereas the cellulose fiber is purely a vegetable product.

The United States Department of Commerce says "rayon and silk are entirely different, both chemically and physically, although both are long lustrous filaments."

Cellulose forms the cells which house the protoplasm or living matter of all plants. The size of these cells varies, but in a closely textured plant, the number contained in one cubic inch might exceed the population of the world.

Rayon has a decided advantage over other textiles, in that it is not de-

It was Jenny who dared combine the very charming colors of turquoise and rose in one of those very feminine creations developed in a rayon satin faille

(Photographs by Don Diego, Inc.)

Voile assumes a new lustre when woven from rayon threads. Its softness and pliability lends itself admirably to the summer slightly draped afternoon frock pictured

pendent on any medium that varies from year to year in the size or quality of its crop. As long as we have plant life, we will have an unlimited supply of cellulose, which makes it possible to stabilize the rayon industry.

Rayon has found its way into the dictionary of the English language, its general definition reading something like this:

> Rayon, a lustrous, elastic cellulose, spun into thread from which are made various fabrics closely resembling silk.

There are four processes now in use to greater or less degree in the production of rayon, namely: Nitro-Cellulose; Cupro-Ammonium; Cellulose, Acetate; and Viscose. These differ basically in the solvents and methods used in converting cellulose to liquid form for transforming it into threads or filaments.

The first of these, Nitro-Cellulose is the process introduced by DeChardonnet in 1884, in which cellulose from the cotton plant is passed through a nitration process, then dissolved in alcohol and ether, and forced through a glass tube with a very small aperture. This forms a filament that hardens as the alcohol and ether are absorbed or evaporated upon coming in contact with water or air. The single filaments are then grouped together to form threads of whatever size is required.

For fully sixteen years, Nitro-Cellulose was the only known process, but throughout this period, improvements were introduced from time to time, which finally led to the establishment of the Supro-Ammonium process in 1900.

Credit for this method is attributed to Bronnert, who secured the first patent, but there were so many others seeking a solution of the cellulose problem that a long series of patents resulted about the same time.

In the Cupro-Ammonium process, like its predecessor, some form of cotton cellulose has always been used. The cotton cellulose is first washed and treated to free it from all foreign matter, and then dissolved in Schweitser's solution, a solvent prepared by dissolving copper shavings in an ammonium hydrate solution and adding a small amount of caustic soda.

The purified cotton cellulose requires about six hours to dissolve in this solution, after which it must be kept at a temperature under forty-one degrees Fahrenheit. Absolute temperature control has always been one of the principal difficulties in the manufacture of fiber by this process.

Forming or spinning the liquid into threads is quite similar to the Nitro-Cellulose process, although the solution does not coagulate naturally on coming in contact with air or water and must be passed through a solution of sulphuric acid for this purpose.

Cellulose Acetate did not receive any technical value, however, until 1901, when its recognition was brought about by Cross & Bevan, English chemists. Theoretically, Cellulose Acetate is prepared by treating cellulose in the form of cotton with acetic anhydride, but in practice the addition of other compounds is necessary.

This solution has been used more extensively for other purposes than for making threads. Its principal virtue, and at the same time its greatest handicap, is that it is more or less water-proof and cannot be dyed except by specially prepared formulae.

The Viscose process although the newest method known, is now the most extensively used and has overcome many of the difficulties of former processes. This process is used by a number of American companies.

The first viscose patent was taken out by Gross and Bevan in Great Britain in 1892, as the result of their scientific research into the chemistry of cellulose. This patent covered the viscose solution and was used for making a plastic compound of cellulose. While the solution was known to be suitable for the manufacture of textile fiber, no particular stress was laid on this phase of the subject at that time.

The first practical step in this direction was made by a manufacturer of electric light bulbs in London, who conceived the idea of forming viscose into a single solid thread, similar to horsehair, and using it as a filament in the electric bulb. The project never reached commercial proportions, mostly because carbon filament was shortly replaced by more advantageous forms. The undertaking, however, served its purpose in encouraging the use of viscose for converting cellulose into thread, and this is the medium through which 75 per cent of the world's supply of rayon is made today.

In 1902 an inventor named Topham perfected an apparatus for forming textile fiber from a solution of cellulose, twisting it, and at the same time coiling it into a cylindrical package. This was a radical change from any of the methods then in use, and proved so superior that it is now in use almost universally.

In fact, it appears to have supplied the necessary impetus to the growth of rayon as an industry. The manufacture of rayon has grown steadily and rapidly ever since. In 1923 the world's production reached ninety-seven million pounds; in 1927 consumption in the United States alone was over 100,000,000 pounds.

The anemic little project which was born in 1884 would have died unknown to the world, had it not been for the careful nursing and constant attention bestowed upon it.

Due entirely to the persistent efforts and analytical study of its needs by scientists and chemists its faint breath of life was nutured and it gradually but slowly progressed during the first sixteen years of its existence. With the beginning of the twentieth century, however, it received new vigor through the adoption of new formulae. It was then established as a healthy, normal industry, and has since grown by leaps and bounds.

Any process used in the manufacture of rayon must be very delicately controlled as it is distinctly a precise chemical procedure in which the cellulose solution undergoes constant changes within itself. In spite of all it is humanly possible to do, there is always the contingency of some unknown factor entering into it and making the solution useless for any purpose whatever.

Such a casualty occurring in a well regulated rayon factory is generally buried on the premises and the outsider never knows of the manufacturer's misfortune. Even when the cellulose solution produces a chemically proper rayon and, due to improper mechanical equipment and handling, a yarn is made that can be marketed only as C grade, a direct loss of fifty cents a pound results.

These difficulties are tributory to the non-financial success of a large number of companies, but the biggest factor is no doubt the large amount of capital required for original construction, installation and carrying charges, until a sufficient quantity of merchantable goods can be marketed to meet expenses.

A further factor to contend with is that rayon cannot be manufactured at a profit in small quantities, so that the initial undertaking must be on a large scale. It never was and never will be possible to start with the value of a shoestring and wind up with a fortune. Large sums were sunk in this industry before it began to produce and until just a few years ago, the rayon situation paralleled the gold fields of Alaska—more had to be put in than was taken out. In fact, the success of the whole industry today is due to the tenacity of some of the original exploiters who persisted in their undertaking in the face of the most discouraging situations.

This refers not only to American enterprises but to all the principal rayon manufacturers of the world today. The estimated world production for 1926 was 219,700,000 pounds while in 1927 the total international production soared to approximately 254,520,000 pounds.

Most of us do not realize how many ways rayon has been serving in our homes in recent years. We do not realize that rayon is responsible for the wonderful sheen in the velour hangings, for the silken luster in the tapestry covering of the armchair, and for the luminous figures in the Chinese scarf on the console. We

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# AMONG OURSELVES

AS we go to press most of you are making ready for summer vacations—some for travel abroad (a big "some" if we can judge by what we hear!), others for equally interesting trips this side of the "big water," others for study for the coveted degree. Work, play, rest—whatever your choice, we wish you the best of luck and renewed energy for tackling classroom problems again in the Fall.

## Student Club Activities

WE have been extremely interested in the News Letters received from so many of the state home economic associations, and especially in reading of the many ways in which home economic activities touch and weave in with other lines of work. The aim of all education should be, of course, to fit students to cope with the conditions of life as they exist in the age in which they live. We are moving swiftly in these days, and in our endeavor to meet changed economic conditions, are we not, perhaps, prone to stress too strongly the materialistic viewpoints? Miss Van Arsdale, speaking along these lines in a News Letter from the New England Home Economics Association asks, "Are we not inclined to be educational opportunists rather than practical idealists? Do we not keep our ears too near to the ground? In considering the readjustments in family life, do we not spend too much time on the ephemeral and material factors that do not endure and give too little consideration to the phases that persist in spite of all economic changes? Is it not time for a spiritual renaissance in family life, and cannot home economics point the way?" These are questions that open the way to some serious thinking; we leave it to each of you to formulate your own answer.

THE Annual Home Economics Day at State Teachers College, Buffalo, New York, was observed on April 27th in connection with Better Homes Week. A feature of the program was the play sponsored by the Home Economics Club dramatizing the Life of Ellen H. Richards. The play was written and enacted by students of the school and was an attempt to show the true personality of Mrs. Richards, her willingness to help others and her great ability in Home Economics work. Costumes and properties used helped to make the play very vivid and portrayed well the times in which she lived and worked. The program and cast are as follows:

| | |
|---|---|
| Ellen H. Richards | Elizabeth McFarland |
| Professor Richards | Margaret Bauer |
| Ellen's mother | Ruth Miller |
| College Friend of Ellen's | D. Ewers |
| Mrs. Crow | Myrtle Mansfield |
| Mrs. Whiley | Kathleen Lodge |
| Mrs. Bascom | Elsie Peterson |
| Mrs. Johnson | Josephine Ackerman |
| Miss Nicholass | Joyce Dudley |
| Mrs. Norton | Elizabeth Curran |
| Miss Palmer | Evelyn Gast |
| Mrs. Keller | Letha Cooper |
| Miss Huntington | Margaret Roynan |

Scene I.—Kitchen of Swallow Home
Scene II.—Ellen's Room at Vassar
Scene III.—Mrs. Richard's Home
Scene IV.—Mrs. Richard's Study

Other features of the day were addresses by Miss Laura Rischman on Electrical Appliances, and Mrs. Crete M. Cochran on Home Furnishings. These were followed by a tea at the practice house.

The last News Letter from the Texas Home Economics Association reports many interesting things being done in the various home economics clubs. In one, for instance, a decided effort is being made to rouse interest among the girls on the subject of good manners, correct dress, health habits and similar subjects. The girls not only enjoy discussions on these points but they are trying very hard to put into practice what they have learned. One of the students has written and directed a play which was given before the student body in the general morning assembly. This has led to the writing of several one act plays that are to be given in order to earn money for the club in order to buy draperies for their clothing laboratory. This club also reports that they are going to take charge of making the flower beds, planting and caring for the flowers and shrubs that the Parents-Teachers Association is to furnish for their school campus.

The Home Economics Club at Simmons University, under the direction of Miss Alma Dan Phillips and Miss Lillian Meadows, gave a pageant entitled, "Styles of the Ages," with a cast of two hundred and thirty-five persons. To quote from the News Letter. "The purpose of the pageant was not so much to present the dress of all ages and races of history with completeness but to show the way in which styles appear at certain times in history, run their course and die out only to appear some time later in a different guise. Modern adaptions served to prove this. The straight lines of the Egyptians, the flowing robes of the Greeks, the togas of the Romans, the robes of the Chinese mandarin, and all the old styles of the early centuries were reflected in the modern dress that passed behind them."

## Growth of 4-H Clubs Last Year

RECENT information from the United States Department of Agriculture puts the number of farm boys and girls who carried on 4-H Club work in 1927 at 619,712. Such results may well be a source of pride to all cooperative extension workers to the department and to the state Agricultural Colleges which they represent.

"This means," says C. W. Warburton, director of Extension Work, United States Department of Agriculture, "that during the year over 619,000 young people of rural communities in every State voluntarily undertook to demonstrate an improved farming or homemaking method and cooperated in an effort to benefit their communities. Whether or not the individual club member was able to complete his or her club undertaking, he had the benefit for a time of contact with others who were interested in farm life and with ways for making it an 'up-and-coming' enterprise. Four-H club work with its four-fold development of head, hand, health and heart through practical experience in the latest and best methods for agricultural and home economics activities under the direction of cooperative extension workers, furnishes such opportunity.

"Club enrollment is growing steadily through the combined efforts of all cooperative extension workers. Each year we have increased the number of boys and girls who have participated in 4-H club work even though the number of agents has not materially increased. That this has been done through the use of sound educational principles is shown by the fact that the quality of work has been maintained with the increased number of club members. In 1924, wth 3,419 county extension agents, 55 per cent. of the boys and girls who enrolled in 4-H clubs completed every detail required in their undertakings. The next year, with 54,000 more boys and girls enrolled and only 19 additional agents, 58 per cent. of the enrollment completed. In 1926 the percentage was 62.8. This past year when we increased the number of boys and girls enrolled in clubs by 33,000 over the previous year and the working staff of county extension agents by only 22, we were still able to make a little better record in completions than the year before, 64.4 per cent. of the boys and girls who enrolled carrying on to the finish. This, I feel, could not have been done without the generous amount of time and interest given by the 60,000 local men and women who acted as volunteer leaders of clubs and the steadily improving methods in conducting club work."

# Ninth Grade Course of Study in Health

By FLORENCE JUHLING McCLUNG
Marshall College, West Virginia

EDITOR'S NOTE:—The following outline shows the type of work planned by students in the teacher-training course at Marshall College. The exchange of ideas afforded by the publication of articles such as this should prove worthwhile to students and teachers alike. Won't you let us hear from you?

*Civic Biology and Health*
(for students 15-16 years)

Time Allotment: Four forty-five minute periods for recitation and one double period laboratory work each week throughout the school year.

General Aim: To develop a civic consciousness based on scientific facts as they are met in daily lives of human beings.

Teachers' Aim: To teach the function and inter-relationship of all living things—both plants and animals, with relationship to the health of man.

Pupils' Aim: To learn to understand and to appreciate the dependence of man upon all living things both plant and animal.

Theory and Thought Content: Biology is the science which treats of life and all living things, plants, animal, man.

I. Biology Defined. The inter-relationship of animal and plant life.
A1. Food: a. Food for various animals.
b. Plant and animal food used by man.
c. Relative cost of man's food.
2. Housing:
a. Nature's contribution to the homes of man.
b. Health and safety, in location, construction, and care of home.
c. Laws effecting sanitation, and safety in tenements, schools.
B1. Adaptation of various animals for
a. Food getting.
b. Protection.
2. Man's great adaptability:
a. Food getting (variety).
b. Protection.
c. Living in all climates under various conditions.
1. Man is physically most adaptable of all animals.
2. Man is least happy of all animals in his environment.
II. Living Organisms: Plant and Animal:
A. Their distribution:
B. Their physical mechanism, life function, respiration, circulation, oxidation, assimilation, feeding, digestion, absorption, elimination, growth and reproduction.
1. Simple to more complex type of organization:
a. Biological (amoeba to man).
b. Examples of non-use of biological powers.
2. Reproduction in plant life.
3. Reproduction in animal life (lower and higher forms).
4. Human reproduction.
References—Cady V. M. & B. M. The Way Life Begins.
C. Their function in nature's plan:
1. Micro-organisms:
a. Animal.
1. Protozoa.
a. Helpful (decomposition).
b. Harmful (human disease and animal diseases)
B. Plant:
1. Bacteria.
a. Helpful—harmful.
b. Their diseases.
c. Alcohol and its effects on public and personal efficiency.
d. Alcohol and the next generation.
Tobacco:
a. Tobacco and mentality.
b. Nicotine and health.
III. Betterment of Man's Environment.
A. Riddance of all insects, vermin, parasites, dangerous to man.
1. Fly, mosquito, flea, rat, roach, hookworm, tapeworm.
C. Improved housing conditions.
D. Protection of water supply.
E. Improved disposal of wastes.
F. Development of science of Public Health.
1. Health officer, medical inspector, health nurse.
2. Hospital with isolation or quarantine ward.
3. Free treatment for communicable diseases.
4. Life of great health leaders and their contributions. Pasteur, Reed, Morgas, Trudeau.

*Procedure*

It should be remembered that boys have a different biological interest than girls. That children from urban districts have different interests from country communities. Therefore the launching of civic biology must depend entirely upon the pupil and the needs of the community. The text must supply subject matter and then it must be put into live problems to be solved.

A Junior Civic League with standing committees on publicity, safety and health, numerous field trips, visits to local institutions and civic utility plans followed by reports and debates will utilize the work by bringing the subject matter into the lives of the children. The Audubon Society may be organized for the study of birds, collection of local insects, wood leaves and bark, local flowers and ferns.

Posters and Class Bulletins: Filing cabinet should contain bulletins from Department of Public Health, Labor and Commerce.

Problems: Score cards and supplementary note books on health problems make individual problems. These may be kept as parallel work with a regular note book.

Suggested Mottoes: "We believe in ourselves and in mankind, and are ever ready to fight to the death with human beings anywhere to get a square deal, in the chance of life and happiness." J. T. Sowers.

"I believe that man should be proud of the city in which he lives, so that his city will be proud that he is in it." Abraham Lincoln.

*Health Lesson Outline* 1.

Are you as attractive as nature intended you to be?

Points:

1. Hair: A woman's chief glory lies in her hair. Glossy and free from oil. Not dry and brittle.
2. Eyes: Eyes that sparkle like stars at night. Bright, sparkling, alert —not dull. Not strained, or frowning. Clear white of eyes, not muddy or yellow.
3. Mouth: Smile and the world smiles with you. Pleasing expression. No mouth breathing.
4. Teeth: The charm of your smile comes in your teeth. Well cared for.
5. Skin: A skin you love to touch. Clear, without eruptions. Good color, not enemic. Moist and smooth, not dry and scaly. Tissue firm and elastic, not flabby or soggy. Skin under eyes smooth and clear, not dark and baggy. Lips naturally red.
6. Hands: Beauty at your finger tips. Skin immaculately clean. Smooth, without abrasions or cuts. Nails and cuticles clear and carefully cared for (no extremes).
7. Feet: A foot of comfort means miles of happiness. Normal shoes worn evenly on heels and sole. Properly shod, no extremes.
8. Posture: Graceful carriage. Head well poised. Shoulders level, one shoulder not higher than the other. Graceful body, line not broken by abdomen, chest high. Feet in good position, slightly apart and parallel. Arms in graceful relaxation, good lines and grace while seated. Lower spine against chair back. Knees almost touching each other. Harmony of movement while walking. An elastic step, firm not heavy. Good rhythm of entire body. Correct weight for age and height.

Good hearing: Can you hear ordinary conversation at 16 feet?

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# The Art of Tied and Dyed Work

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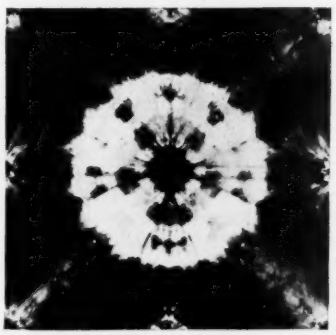
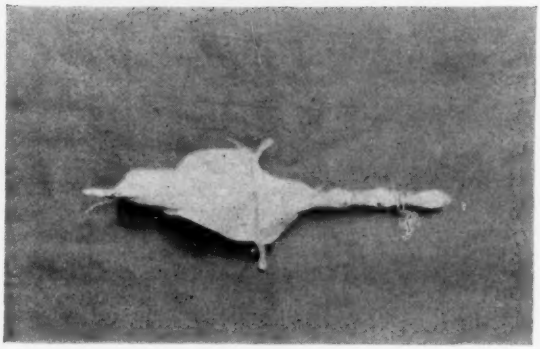
EDITOR'S NOTE:—This is the second article on home dyeing. The first, which was published in our June issue, gives a brief history of the dye industry and very complete directions for dyeing all kinds of materials.

TIE-DYEING is a revival of an old art. The process has been used by many races of people for hundreds and perhaps thousands of years.

Tied-and-dyed work depends for its artistic effects upon the methods used in tying and binding, and the combination of colors.

Innumerable ways of tying and knotting the materials afford unlimited variety for individual expression in both design and color effects.





This luncheon cover was folded in halves and quarters, tied in three places at the center, and at each of the corners. The corners and the center tips were dipped in orange, and the rest was dipped in a weak solution of dark blue, producing this design

Beautiful results can be obtained on a wide variety of materials. Silks, satins, velvets, soft woolens, rayon and all cotton fabrics may be tied and dyed with equal success.

### Knot Tie-Dyeing

This is tie-dyeing in its simplest form. The material itself is tied in knots at those points where a design is wanted. A simple illustration of this method is to tie a knot in each corner of a square of cloth, then pull the center of the square into a loop and tie a knot in it. The material should be moist before the knots are tied. When a cloth treated in this manner is dyed according to the directions given below, it will produce an irregular pattern across each corner and an irregular circular design in the center. If white material is used and the knotted cloth is dipped in light blue dye, the result will be a blue cloth and a white pattern. If, however a pink cloth is used and dipped in light blue dye the result will be an orchid or lavender cloth with a pink design.

### String Tie-Dyeing

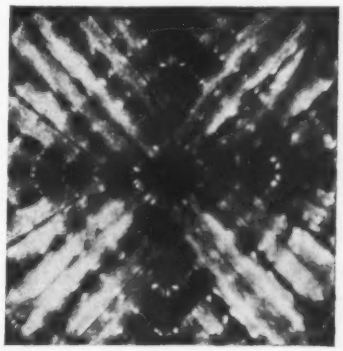
Strings, threads, tapes, or narrow strips of cloth are used to bind the portions of the goods on which the design is desired. If the material is bound tightly with two or three layers of string very little dye will penetrate it and a clear cut design will be obtained. If the string is loosely tide and if fewer windings are used, the design will be more irregular and edges of the design will be softer. Sharp, clear-cut stripes, straight across the material are obtained by gathering the cloth lengthwise into folds and binding tightly with enough turns of string to produce sufficient width to the stripe. Circular patterns and sunburst effects are produced by folding in halves and quarters and then binding at intervals.

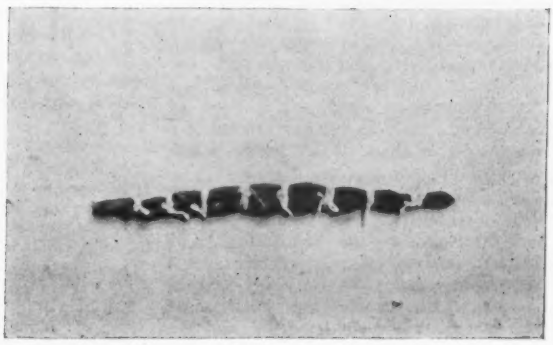
Borders are produced by tying rows of loops along the outline or by tying in rows of buttons, marbles, beads, etc.

Of course knot tying and string tying can be combined in the same piece of work together with a conventional border or design made by tying in various small beads, buttons, etc. With a very little practice the amateur can produce many novel and artistic effects.

All over effects suitable for draperies, couch covers, etc., are obtained by gathering the material lengthwise in soft irregular folds and binding rather loosely at intervals. This will produce the long wavy coloring which may be shaded by using different colors which will harmonize when blended.

Several colors may be used in the same design, but two, three or four colors will probably be the number selected for most patterns.





This card table cover was first dyed in a weak solution of garnet to an old rose shade. While still damp it was folded in halves and quarters, then plaited and tied in above manner. It was then dipped in a black dyebath to produce this design

### Preparing the Bath for Tie-Dyeing

Each dye to be used requires a separate bowl or dish. Dissolve about one level teaspoon of the dye in a cup of boiling water. Fill the bowl or dish nearly full with hot water and then add the dissolved dye.

If the material to be dyed is cotton, linen or mixed goods, use the dyes for cotton. If cotton dye is used add a heaping teaspoon of salt to each pint of dyebath. On wool or silk the brightest and richest shades are produced with dyes for wool or silk. If

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# Books of Interest to Teachers

"Handbook for Menu Planning." By Danna King Gatchell and Cleora C. Helbing. Published by Smith, Hammond and Company, Atlanta, Georgia.

THE merit of this book lies in the fact that it is devoted almost entirely to the problem of menu making. Chapter one discusses the factors of menu making; then comes a chapter on the nutritive values of foods and the body requirements. This includes tables giving the amount, in grams, of calcium and iron in a pound of common foods, tables showing the distribution of vitamins in foods, and lists of acid and alkali producing foods. A great many suggestions are given in the next chapter on food combinations, types of menus, etc. The book should be of value to anyone interested in quantity cookery, such as cafeteria or lunchroom managers.

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"Salads and Sandwiches and Specialty Dishes." By Emory Hawcock. Harper & Bros., New York. $3.50. (Illustrated)

TO the man or woman interested in the correct operation and administration of a restaurant or tea room, the book "Salads and Sandwiches and Specialty Dishes," by Emory Hawcock, and recently published by Harper and Bros., is of decided interest. Not alone, however, to those interested in the restaurant, but to those dietitians and home economics women in charge of the school lunch and dining room, and interested in quantity cookery, is the book of value.

As a good illustration of the practical use to which the book can be put, let us suppose that the home economics teacher wishes to use vegetables and vegetable salads for the chief text of her lesson. In chapter two she will find several paragraphs on the correct purchasing of vegetables, and the care necessary in the cleaning and preparation of such vegetables. But the author does not stop there. He goes on to show the vegetables purchased can be combined to best bring out their nutritional value. Not only can this be said of the chapter in question but throughout the book the same careful treatment of the subject is to be found.

Illustrations of the dishes most commonly ordered are shown, and salads and sandwiches, so popular now-a-days, are listed in almost bewildering numbers.

The book closes with the very necessary information regarding weights, dry and liquid measures, which can so advantageously be worked into the lesson on foods.

It is interesting to note that Mr. Hawcock first decided, in choosing a career, to be an engineer, but during his junior year at college, changed his mind and took up the study of foods. He has developed a unique and successful restaurant business and therefore knows whereof he speaks in telling others how to prepare appetizing foods.

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"Nutritional Physiology." By Percy Goldthwait Stiles. W. B. Saunders Co., Philadelphia. $2.25, 6th Edition.

PROFESSOR Stiles has thoroughly revised and brought up-to-date the sixth edition of this well known book. It now includes material on the newest developments in nutritional physiology —liver feeding in pernicious aenemia, new material on the fats and sugars, vitamins D. and E etc. This should be an excellent reference or text book for advanced dietetic or nutrition classes.

To quote from the preface of this edition, "A certain preliminary knowledge of elementary science is assumed. The keyword of the following discussion is 'energy.' The success of the reader in gaining clear conceptions of what is presented will depend upon his familiarity with the meaning of that term. It is essential that he shall understand that energy is latent or potential in those chemical compounds which are susceptible of oxidation. He must have learned to recognize the possibility of its unending transformation. The more readily he thinks in terms of molecules, the more profitably he can read these chapters."

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"Alice Foote MacDougall — The Autobiography of a Business Woman." Published by Little, Brown & Company, Boston. $2.50. (Illustrated).

ALICE FOOTE MacDOUGALL — Who does not know the name!

To the teacher of foods this book will undoubtedly be interesting since it deals with the subject of a woman who has made a success in the food line against almost overwhelming difficulties.

"The Autobiography of a Business Woman," is indeed a unique record of the struggles Mrs. MacDougall has gone through, not primarily to attain the success that is now hers, but sufficient to give her children those things so necessary to life. The aim of the book has been to set forth in a clear, concise manner—the problems she herself had to meet in her business, and how she overcame them.

A glance at the "contents" in the book shows us chapters on: the early life of Mrs. MacDougall; her readjustment to life when it became necessary to support her three children; the first office on Front Street, and how it grew; how the coffee houses came into being — this chapter showing illustrations of the charming coffee houses. The book then records some of the set-backs and accidents met with, and closes with Mrs. MacDougall's own "Philosophy of Work and Riches."

George F. Baker, Senior, in a letter written to Mrs. MacDougall, and which is published as the preface of her book, puts into appropriate words the admiration the public feels for the courage Mrs. MacDougall has shown throughout those "Twenty Years Hard Labor," and which has resulted in the success so widely known.

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"Handbook on Diet." By Eugene E. Marcovici, M. D., Published by F. A. Davis Company, Philadelphia. $3.50.

TEACHERS of foods and nutrition, dietitians and home economics women in charge of school cafeterias and dining rooms, as well as lay readers will all agree with Dr. Marcovici who says, in his preface that "Diet is playing an increasingly important role in the treatment of most diseases; in many it may be considered the most essential part of the treatment. Until recently in hospitals, sanatoriums and like institutions, the art of cooking has been relegated to those who were ignorant of dietetic values. The present trend, however, is to recognize the importance of correct food preparation."

Realizing this, the home economics teacher can most advantageously use this volumn as a reference book. There are many things in the book which can be put to most practical use in the classroom; for instance, in the chapter on Contamination of Food, Dr. Marcovici tells us in simple words how milk born infections are carried about; how to recognize impure butter and cheeses, etc. These facts can easily be worked into the study of foods.

"Handbook on Diet" does not consider the invalid or patient alone, but gives us also various diets the healthy person might follow including the ever interesting subject of overweight and reducing methods, as well as suggestions for diet in childhood and adolescence.

Other chapters take up the discussion of diet in various diseases, special diets, tables on the digestibility of foods and recipes for making many special type dishes.

This last is a very necessary and practical feature of the book since it covers those dishes listed in the Special Diets. The sufferer from diabetes is not restricted to only a few dishes but may choose from the recipes listed: milk dishes, soups and sauces, meat, vegetable and cereal dishes, fruits and other desserts, according to his own special diet.

The book closes with chapters on Mineral Waters and Bath Resorts; Sea Baths and Sea Health Resorts; the Most Important Mineral Springs and Bath Resorts in America. These last are listed alphabetically according to states.

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"Practical Dietetics in Health and Disease." By Sanford Blum. F. A. Davis Co., Philadelphia. $4.50.

DR. BLUM has revised and enlarged this edition — the third — of his book on practical dietetics. It is made up entirely of dietaries for various types of diseases arranged alphabetically for ready reference. The first part includes type meals and diets for adults in health and disease, while the second part is devoted to the feeding of infants and children. It should be a very useful guide to teachers and students of dietetics and nutrition in the planning of meals and working out dietaries.

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"Elementary Home Economics." Second edition. By Mary Lockwood Matthews, B. S. Published by Little Brown and Company, Boston. $1.40.

MISS Lockwood is Dean of the School of Home Economics in Purdue University, and is well known to many home economics teachers through her work there, her other home economics books, and the previous edition of this same book. This is essentially for use in classes beginning the study of home economics, and because this treats the subject in a strictly elementary way. The subject matter and the methods of teaching home economics have changed in the last few years to such an extent that the old text books are considerably behind the times—and there are few books available that deal with more than one phase of home economics as it is now taught in the elementary and junior high schools. For this reason Miss Matthews' book should prove a valuable one.

The subject matter of the book is divided into two parts—first, Foods and Cookery, and second, Clothing and Textiles. The first includes a few preliminary lessons dealing with such subjects as: The home and the family; the house; the housekeeping schedule; the use of leisure time. These are followed by lessons teaching cookery by the meal project plan; lessons on the care of babies and small children; the preservation of food and a few supplementary lessons. Part two is made up of various simple projects to teach the elements of sewing, discussions of the furnishings for a girl's bedroom, facts about the various textiles, and planning clothing budgets. Laboratory exercises are outlined, and the book is well illustrated by photographs showing both processes and finished products. There is also an excellent list of suggested reference books for teachers.

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"Food Study For High Schools." By Magel Thacher Wellman. Published by Little Brown & Company, Boston. $1.50.

THE title of this book is similar to one published by the same author several years ago, but the subject matter is almost entirely new. The best of the text matter of the former "Food Study" has been retained but is presented in a manner more in keeping with the modern developments in home economics teaching.

There is an excellent foreword for the teacher on how to make best use of the book for food study classes. The text material is well arranged, written in an understandable and complete way, and is attractively and instructively illustrated. Class experiments in food work are outlined and a group of questions given at the end of each chapter, together with other references to other books. The appendix contains tables showing the standards for food requirements, calorie value in average servings of the more common foods, the relative amounts of the most needed minerals as they are found in foods and for computing the cost of 100 calorie portions of food. It seems to us that the book should be a most useful one in the classroom.

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"Table Service and Decoration." By Lilian M. Gunn. Published by J. B. Lippincott Company, Philadelphia. $1.50.

THE fact that this is one of Lippincott's "Unit texts" under the editorship of Benjamin R. Andrews of Columbia College, and the authorship of Mrs. Gunn, who is Instructor in Foods and Cookery at Teachers College, Columbia University, stamps it as an authoritative work on the subject. It is published with two objects in view, according to the author herself. First, it is hoped that it will serve as a manual for teaching correct service, and second, that housewives who have not had time nor opportunity to study larger volumes on the subject, may find this little book of value. It is the outcome of many years of teaching experience and an attempt to answer the numerous queries of "how" and "why" and "when" that arise to confuse the hostess and the homemaker. A short review of the development of table service from cave man days to present times will be of interest to student or teacher. Clear and concise directions for the proper service of all types of meals and of entertaining are given, and there are a number of attractive illustrations to make points even more clear. These include cuts showing pictures of the kinds and relative sizes of the various forks, spoons, knives, and well planned photographs of individual covers set for formal and informal meals. In the appendix are suggestions for teaching courses in table service.

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"Health Heroes — Louis Pasteur." By Grace T. Hallock and C. E. Turner. Published by D. C. Heath & Co., New York — London.

IT will be a simple matter for the teacher of health and hygiene to hold the interest of her class if she will choose as her text the life of Louis Pasteur. How great the deeds of Louis Pasteur were is easily understood when we read "that the people of France chose him as that country's most glorious son,"—placing him even above the great Napoleon.

The book begins with a chapter on the boyhood life of Pasteur, giving us a vivid account of the way he spent these days, together with many interesting illustrations. Some of these are: the home in which he was born, the river Turieuse in Salins where much of his time was spent; the gardens along this river with the stone steps leading to the water; the streets on which he walked on his way to school, and "one of the classrooms in Arbois College now called College in honor of the boy who learned his A, B, C's there."

From the boyhood days in Dole we are taken through to student days in Paris. In this chapter we are told of Pasteur's liking for chemistry, which as we know, he made his life's study and work. Passing from student days we go with Pasteur through his early teaching days. This however, does not hold us long for we find in his scientific experiments much more to interest us. The chapters which follow Pasteur's early teaching days are: Early Studies in Fermentation; Spontaneous Generation; Diseases of Silkworms; New Studies in Fermentation; Studies in Contagions and Infections; Discovery of Vaccine; Pasteur and Fame; Early Studies in Hydrophobia; The Prevention of Hydrophobia in Man; and, Pasteur, The Man.

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"Health Heroes — Edward Jenner." By Grace T. Hallock and C. E. Turner. Published by D. C. Heath & Co., New York — London.

THIS is the second of the Health Heroes Series published by Heath & Company. It is a story of history taken from the deeds of individuals both in politics and science. The book is written with classroom study in mind, be that class, English, social science, general science, or hygiene.

To the teacher of health and hygiene especially, will this book on the life and deeds of Edward Jenner be of particular interest. It sets forth in a charmingly written style the early life of

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# Home Economics with a Trade Association

By LILLIAN B. STORMS, Ph. D.
Director, Department of Home Economics, American Bottlers of Carbonated Beverages

THE American Bottlers of Carbonated Beverages is a national trade association formed ten years ago, and composed of manufacturers of so-called "soft drinks." These include fruit beverages, both carbonated and uncarbonated (or "still drinks"), ginger ales, herb or root drinks as sarsaparilla and root beer, cocoa and milk beverages, specialties such as the cola or kola drinks, etc. There are 2000 active members of the association and it is estimated the membership represents 85 per cent of the production of such beverages. There also is an associate membership which includes those engaged in the allied industries—manufacturers of bottling machinery and supplies.

The consumption of bottled carbonated beverages in the United States, in 1927 was approximately 10,002,502,500 half pint bottles. A half pint bottle averages five cents retail. These figures do not include non-carbonated drinks, artificial mineral waters or brewed beverages and, of course, have nothing to do with the consumption of carbonated beverages made and dispensed at soda fountains.

When the majority of the present day parents and the teachers in our schools were in schools themselves, some twenty or more years ago, the bottled carbonated beverage industry was not an industry, it was the "pop" business. Food and sanitary inspection of any kind was almost unknown and there was lack of organization among the local bottlers; The consequence is that persons who have no contact with the industry do not know that it has grown up during the same time as the growth of sanitary methods of manufacture. Such persons are apt to visualize the present manufacture of bottled carbonated beverages as the same process and done under the same conditions as was done in their home town when they were children. Of course, some of these people need considerable "adult educational work" done on them. If they would stop to think about other food production—for instance, commercial canning, delivery of milk in towns and cities or the sale of meat, they would realize that all food manufacture, sale and delivery are vastly different matters than before the passage of the Federal Food and Drugs Act in 1906. Furthermore, the national association, ever since organization, has been raising the standards within the industry in such matters as sanitation in manufacture, has stood against the use of saccharin in place of sugar, has adopted a Code of Ethics and Rules of Cleanliness and Sanitation which are included in the membership pledge, conducts an annual convention which includes an exposition of machinery and supplies, and speakers of national reputation, as Dr. Edwin E. Slosson and Dr. W. W. Skinner. This convention is attended by thousands of manufacturers and supply men each year.

DR. LILLIAN B. STORMS

Dr. Storms is Director of the Department of Home Economics, American Bottlers of Carbonated Beverages. She formerly was instructor in food chemistry at Iowa State College, Ames, Iowa, and later taught chemistry and nutrition at the University of New Zealand. She is a graduate of Iowa State College (B.S.), Teachers' College (M.S.), Columbia University (Ph.D.).

Photograph by Harris and Ewing, Wash., D. C.

The establishment of a Home Economics Department by the national association about six months ago, was a natural sequence to its maintenance of a Research Fellowship. This Fellowship was established in 1923 under the direction of Professor J. H. Buchanan, Food Chemistry, and Dr. Max Levine, Bacteriology, Iowa State College. A large proportion of the problems undertaken by the Fellowship have had to do with technical aspects of the industry, but nutrition experiments were started and it was felt by Junior Owens, Secretary and the Executive Board of the association, that a woman trained in home economics should be added to the staff to consult with the Fellowship and to aid in disseminating the knowledge gained into the educational world and especially among home economics teachers. In this work she would also cooperate with the publicity work of the association which is under the Director of the Bureau of Public Relations, Joseph R. Flynn.

A second major function of the Home Economics Department was planned to be in cooperation with the Bureau of Public Relations to send out general information about the bottling industry, particularly among educators.

The third aspect of the new department as planned was to help cope with the results of lack of information or mis-information on the part of teachers. The Director of Public Relations deals with adverse criticism, most of which is thoughtless or due to misunderstanding, which may appear in general publications. However, it was felt that one who had been in the teaching field perhaps would understand the viewpoint of educators and know better what information they could use.

The present director of the Department of Home Economics was secured to organize the new activity of the association and assumed her duties on November 1, 1927.

As the work of this department has developed in the past six months, the activities arising from the above outlined need have occupied a large part of the time of the director. The association secretary has been very patient in allowing time for getting acquainted with the industry, the study of ingredients used and methods employed in the manufacture of bottled beverages, also the problems of the industry as a whole as they touch upon this new department.

Any industry has a technique of its own, problems of production, of marketing, and of the attitude of the public to be dealt with, all of which means not only a broad field to be studied but considerable intensive study as well. It takes time to become familiar with not only these problems but the "point of view" of the industry. It has been necessary to do extensive reading of not only the trade publications but of the scientific journals for articles on food and nutrition in any way connected with the industry and abstract these for a bibliography which will serve as a nucleus of information. This does not mean that general interest in the many phases of

*Recent information from Dr. Storms tells us that the bibliography she mentions in this article has been completed, and is made up of articles relating to the bottling industry, the food values of carbonated beverages, etc., titles, authors and the page references to the articles being given together with short abstracts of the articles. There is also in the process of preparation a pamphlet of information on the composition and value of bottled carbonated beverages. This is to be written in such a way as to be of use to teachers.

nutrition work being done can be dropped by a person engaged in commercial home economics work, for one is not only expected to be a general source of information about one's particular and specialized subject but also of the mass of material being published in the scientific journals.

IN addition to many of the problems met with in a manufacturing or distributing firm a trade association offers a set of conditions of its own. The members of this association manufacture a variety of products, many of them in active competition with others within the group and the national headquarters must so present its educational material, its advertising and any approach made to the public in such a way as to apply to the industry as a whole. The only exception to this rule is when someone from outside the industry asks a direct question about one of the products or a class of products.

This restriction limits statements which can be made to generalizations. There is considerable difference in the nutritional value of different beverages aside from the fact that the sugar content varies within rather wide limits, i. e., 7 to 17 per cent, but unless specifically asked we do not call attention to these differences or to the different nutritional values of the various acids and flavors used. That is left to the individual producer or group of bottlers concerned.

On the other hand, the fact that statements from a national trade association have to be sufficiently general to apply to the whole industry has a certain advantage. In some places school boards have reacted against the use of advertising material and even if educational matter from a firm is of value to teachers in their work its use is ruled against for fear of giving so-called "free advertising" to one firm over competitors. However, some of these school boards will allow the use of general information about an entire industry when they will not allow educational material from a specific firm.

ANOTHER distinctive phase in the work of a national trade association is that one has a very large number of employers who like to be satisfied. In that respect such positions are a little like political jobs.

One very important aspect of this particular position is that of the contacts which it has been possible to make. With people who have no interest in the subject or an actively antagonistic attitude toward the industry and these beverages, a general educational campaign conducted with the cooperation of the members in the particular locality has in many cases resulted in a changed viewpoint. An antagonistic person is so because of a lack of information and if it has not been possible to get him to read the literature and letters sent out, or in cases where it is a matter of gradually changing the ideas of a large group of people, personal contacts can do in a short time what it might take months to do in any other way. One can in a few moments show the sincerity of such an association in a more convincing way than it is possible to do in a good many letters. The mere fact that such a position with a trained woman as director is maintained by a national trade association can be made to function in the mind of the person interviewed and the integrity of the association can be brought to the attention more effectively and in a less aggressive way than by putting such a point before him in a printed pamphlet or by letter.

THE members of the association may not realize how very interesting has been the opportunity of getting really well acquainted with the industry, not only the details of manufacture and machinery used, but getting acquainted with the manufacturers themselves. Most of these contacts have been made through the meetings of the state associations where the new member of the national association staff has been asked to speak and the advent of a woman in the industry has been a matter of some interest, not to say curiosity, evidenced by the attention given to her talks. Beside getting information by hearing the discussions in meetings and in small groups outside of meetings, which have been well worth while, there have been two developments, which have been of great interest. One of these has been the realization of the fact that the members of this association, a membership made up largely of small manufacturers who are in keen competition with one another, are working in harmony and with cooperation for the good of the industry as a whole.

Another interesting development has been the realization that there would have to be some educational work done among the manufacturers themselves. In meeting individuals it has been found that some of them do not know the value their beverages have from the food standpoint. They use from 7 to 17 per cent sugar, fruit acids the value of which is not yet definitely known, oils of fruits, or fruit juices, and roots such as ginger which have a physiological value. Each line of beverages has talking points which in this day of common knowledge of food values are of no small advertising advantage. On the other hand we occasionally find a manufacturer who, knowing his products have real value as foods, thinks they should be given equal rating with other foods which have the same energy value. There is even the enthusiast who thinks his beverages could take the place of a square meal! Hence educating the bottlers themselves has its interesting complications.

As aforementioned, the association maintains a research fellowship at Iowa State College. This was established in 1923 and now beside the two professors in charge of the work there are two fellows associated with them. Aside from the technical service rendered to members in solving specific problems (during each year the number of samples analyzed averages about eight hundred), the fellowship is conducting constructive research. The most intensive studies have been on syrup and on soaker solutions.

THE spoilage occurring in carbonated beverages was found to be due in large part to yeasts which are associated with sugar and the study on syrups has been to determine the best method of eliminating this trouble.

The same methods in use for cleansing bottles in this industry are also used by others needing to clean glass containers but in spite of the wide use of the same methods and the cleaning agents used not only in this but other industries, the fellowship found very little reliability could be placed on the method used for testing these solutions for strength and germicidal properties. A simple test has been devised and put on the market at cost price to members of the association, and has also been made available for other industries. The value of these two series of researches has been inestimable.

NUTRITION experiments are now in progress on some of the products manufactured by members. Most nutrition experiments published in the past have been done outside of the industry and have been for the purpose of showing the superior nutritional worth of milk over any other one food. Any food compared to milk will be put at a disadvantage as a single food and experiments conducted as they have been done are distinctly unfair to a product which claims to be a beverage and not a food, even though there be an appreciable food value present. Many foods in common use do not have as high food value as these beverages but such foods are not fed to animals as a sole source of all food factors compared to milk and then declared worthless.

Association with and cooperation from the A. B. C. B. Fellowship was the first aspect of this position which appealed to the present director and has been found to be of far-reaching and great value. An unexpected advantage has been that the members of the association are already accustomed to having a scientific person with an aversion to making decided and positive statements advise against the natural tendencies of the maker of advertising copy. Other firms and

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# Two Home Economics Plays

## Our Cooking Class

EDITOR'S NOTE:—This little play was written by the home economics pupils of the Grover Cleveland Junior High School, Elizabeth, New Jersey, under the direction of Miss Ruth Alderman. The pupils of this school are from foreign homes and the home economics classes are frequently asked to provide some very short entertainment for assembly programs. This was presented with the aid of charts and posters to illustrate the important points.

(A series of speeches to be given by four girls in auditorium. All girls are dressed in white aprons and wear head bands.)

*First Speaker*

We are the cooking room girls.

Sometimes girls wonder what the boys do in their shops, and I know that you boys are curious about what we do; so we have come to answer your questions.

What do we learn in cooking class? Do we study from a book?

Yes, our main text book is called "Household Arts for Home and School" (she shows book). It is written like a story and has many nice pictures.

We also use posters and charts. This chart, for instance (holds up "Posts" wall chart), shows how much of minerals, fat, sugar and starch, protein and vitamins are in most of the ordinary foods which you and I eat every day.

We have written work too. Also tests and examinations. These are usually the kind that you work like a puzzle. Here is a sample copy which we have printed big enough for you to read (she reads and shows chart).

"In the spring, when you feel tired and restless, which of the following foods will help you?

a. Meat,
b. Fresh vegetables,
c. Bread and cake.

Fresh vegetables will help you because they contain minerals and vitamins which are the best spring tonics in the world."

*Second Speaker*

You may be surprised to know that there is something even more important about food than learning how to cook it.

All people do not cook food every day; but we all eat food every day. So it is very, very important for all of us to know how to choose our meals wisely whether we are buying them at our cafeteria, here at school, ordering them at a restaurant, or are asking our parents for a second helping at home.

I think that I can tell you some of the main ideas we use in choosing food. All foods belong to one or more of three classes. These are body building foods (she shows chart). You will notice that milk is the most important one.

Our muscles are made from body building foods, but the energy to make these muscles work comes from energy foods (She shows chart). These foods do for us the same thing that coal does for a steam engine; they give us heat and energy for work and play.

But probably the most important group of foods to know are these regulating foods (she shows third chart) because people are most apt to neglect them. Without fruits, vegetables, and the outside parts of the grains we would all get sick and die even if we had plenty of the body building and energy giving foods.

*Third Speaker*

Even though people usually speak of the course we take as "cooking" we study many things that are not about food. What are these things we learn?

We learn to care for younger brothers and sisters, what hours they should keep and how to keep them clean and well.

We learn to take care of our own rooms, to make beds, and to sleep with our windows opened.

We learn how to get rid of mosquitoes, bugs and flies. Did you know that one fly left unkilled at this time of year may be the great grandmother of thousands of flies by August?

We learn good manners—how to set a table, how to wait on a table, how to entertain company, and how to introduce people to each other. Suppose I wanted to introduce a school friend to my mother, what should I say? This little book (holds out copy of "Everyday Manners") from our library will tell you.

We learn about soap and how to use it; how to wash white clothes snowy white; how to wash woolens without shrinking them; and even how to wash and care for our skin and how to shampoo our hair.

*Fourth Speaker*

In doing all these things we are trying to learn habits that will help us the rest of our lives.

Nine-tenths of the things we do are habits. We may as well get into the habit of being clean instead of dirty, orderly instead of slovenly, accurate instead of careless.

We try to make it a habit to use the knowledge that we get in science and others of our school subjects when we are cooking.

We want to train ourselves in the habit of saving steps in the kitchen by planning our work before we begin it and getting all utensils ready before we start.

And the very most important habit of all that we are trying to learn is the habit of using self control and getting along well with our make-believe families in the cooking room, for we want to become the best possible members of our own real families at home.

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## Take Our Advice

By FLORENCE HARRIS

Teacher of Domestic Science, School Number 4, Paterson, New Jersey

Mrs. Green: Oh! I am so tired! Dorothy (who is two years old) is so cross and fretful. She cries at mealtime because she doesn't want to eat and then cries after because she is hungry. She absolutely refuses to eat vegetables or drink milk or take anything that is good for her but demands hot cake and bread. How do *you get* your children to eat vegetables and drink milk, Mrs. Jones?

Mrs. Jones: Have you ever tried feeding vegetables to children when they were very young? Get them in the habit of eating vegetables and taking milk in some other form than a beverage and you will have no further trouble. Often if children are allowed to drink milk from a pretty cup or through a straw, that solves the difficulty.

Mrs. Brown: I don't see why children have to be annoyed by having to eat food they don't like. If my children don't like spinach and that greasy stuff, I let them eat what they like.

Mrs. Jones: Are your children strong and healthy, Mrs. Brown?

Mrs. Brown: No, I can't say that they are so healthy, always getting colds, or if the children who live across the street have the measles, my children get them too. But that's only natural (the measles); they might as well get those childish diseases and have them over.

Mrs. Jones: There was a time when I thought children had to have all childish diseases, as they are called. If a child or an adult has the proper kind of food including vegetables, fruit and milk every day and in sufficient quantity, and follow other health rules, they can keep away the germs of any disease.

Mrs. Green: I am going to have guests tomorrow evening for dinner and I am so nervous and worried about

it. I never ask people to visit us but my husband, who thinks entertaining guests is "all play," insists on inviting people.

Mrs. Jones: You have a beautiful home, fully equipped. I cannot understand why you do not want guests.

Mrs. Green: In the first place. I know, as you say, I have beautiful china and table linen and silver, but my table never looks like other people's whom we visit.

Mrs. Brown (aside): I agree her table always does look as though a cyclone had just blown through the house and landed things on the table—well, just anywhere.

Mrs. Jones: Since you have spoken about the table and we are such old friends, let me give you a little advice. Don't leave everything to be done until the last minute. Let Marie who has studied Domestic Science in school help you. Allow her to set the table.

Mrs. Green: My, oh, my! If I did, that child would have every piece of china, glass and silver hauled out of the closets. She says, "she set the table with class." I must admit that it does look rather nice. She insists upon having flowers for decorations and she fusses if the stems of the flowers are too long and she says the decorations must not be too high. Then, too, she had a definite place for the napkin and the water glass and each spoon, knife and fork that is to be used. When I was telling my neighbor this morning what the menu was to be, she laughed right out loud and then said, "Excuse me, mother, but that's some menu. Do you think that your guests are all going to dig tunnels after dinner."

Mrs. Brown: And what was the menu?

Mrs. Green: Noodle soup; I hadn't decided on the meat course, but I had decided to have potatoes, macaroni and rice to serve with the meat and the cornstarch pudding for dessert.

Mrs. Brown: But Mrs. Green, you have forgotten entirely that a green vegetable and a salad are so necessary. Besides, you can have a nice dessert of fresh fruit at this time of the year, which will save you hours of labor in the hot kitchen. Why do you wish to serve so many articles of food which contain starch and not any which have cellulose and vitamines and mineral salts, all of which the body must have for good health?

Mrs. Green: Oh! I cannot be annoyed with all those new-fangled ideas which you women are always discussing. They take too much time.

Mrs. Jones: Not half as much time as the type of meals you say you have been serving and your family will be much better fed and nourished at much less expense.

Mrs. Green: I think you are right about the dessert course. My cakes and pies are always failures. Marie says, "Mother, follow a recipe accurately until you know it so well that you know how to change it accurately and then make your change." I don't do that; I just guess at the quantity of ingredients and I suppose my guess is not accurate. Where did you both learn so much about how things should be done in the home?

Mrs. Brown: Don't you remember when we were in High School we studied Domestic Science? Mrs. Jones and myself have always practiced what we learned and in that way have succeeded in "Feeding the Family" properly and having plenty of time for recreation and exercise.

Mrs. Green: I was always so tired then, as I am now, that I couldn't give attention, because I always stayed up so late at night and never had time to snatch anything but a doughnut and a little coffee, and often not that, and I was always sleepy and hungry, and I couldn't listen. But from now on I shall pay more attention to what Marie learns in her domestic science class and follow that advice.

Mrs. Brown: I know from the time that my daughter entered the sixth grade she has been so interested in the work in the domestic science class. In the sixth grade the girls began their work by learning the proper methods of cleaning; this is then followed by the selection, preparation and serving of a breakfast. In the seventh grade the girls learn to cook and serve a luncheon and in the eighth grade, a dinner.

Mrs. Green: That seems almost impossible.

Mrs. Brown: But I know it is a fact, because I have visited the school and watched them prepare and serve the meals. Then, too, the meals are such as one would serve to their own family. The girls learn table manners, the hospitality of the home, the care of younger children and preparation of simple food for an invalid.

Mrs. Green: Thank you, good friends, for your valuable advice. I hope when we meet again I too, shall be able to discuss some phases of Domestic Science with you.

(Ladies leave the stage.)

## Ninth Grade Course of Study in Health

(Continued from page 188)

Good Vision: Can you read ordinary print at arm's length? Can you read the usual bill board across the street?

The all important first impression.
- Radiating good health and spirits. Enthusiasm, interest, magnitude.
- Poise: Perfect control of self. Inspiring others with confidence and admiration.
- Voice: Depth, warmth. Force of your personality should speak through your voice.
- Pep: The power that makes the world's wheels go around.

Total Score, 100. Is your score what you would like it to be? If not, why not remedy it? "Health makes Beauty."

References: Applied Biology; Bigelow. Teachers Manual of Applied Biology, Bigelow. How We Resist Disease, Lippincott Co. The Way Life Begins, Ameneale. Social Hygiene Association. Teaching Home Economics, Cooley, Winchell.

*Health Lesson Outline*

I. Individual Health Problems of the Girl and the Woman.
- Six talks, including Relaxation, Posture, Habitual right use of the body, walking, sitting, lifting, stair climbing. Eliminations of body waste. Cold, headaches, backaches and other preventable illness and danger signals.

II. Embryology.
- Reproduction, sexual and sexual in plant and animal, charts, models, drawings, lantern slides. (Parallel reading by class.) Human reproduction. Embryonic development traced by lantern slides.

III. Pre-natal care.
- Lecture, lessons by teacher. Text, Pre-Natal Care. Bulletin of Children Bureau, U. S. Dept. of Labor. Parallel reading from references. Written lessons emphasize the important points.

IV. Physical care of infants and small children.
- Lesson recited by class. Text, Infant care. Bulletin of U. S. Children's Bureau. Parallel reading and reports.

V. Pre-school age child.
- Lesson recited by class. Text, Child Care, Pre-School Age. Bulletin of U. S. Children's Bureau.

VI. Psychology of childhood.
- Class reports and discussions. No one text, but extensive parallel reading from reference on following subjects. Play, Heredity, Recapulation theory, Instincts, Moral development, Periods of child's life.

VII. Problems of a young child.
- Toys, Pets, Training habits, Punishments, Sex Education, Medical examination, Kindergarten.

VIII. Papers on different phases of child welfare by class.
- Suggestions for Themes:
  - The Community Conscious.
  - The Model Home.
  - The Marriage Health Certificate.
  - Child Labor.
  - The Mother in Industry.
  - Women in Gainful Occupation.
  - Child Labor Laws.
  - The Milk Problem.
  - The Visiting Nurse.
  - The Boy and Girl Scout Movement.
- Debate: Heredity versus Environment.

In pre-natal classes teacher must do all talking.

Eugenics and sex education are not discussed until end of course and then in the briefest, frankest manner.

# Home Managers Benefit Through Waste Elimination Program

By RAY M. HUDSON

Assistant Director, Commercial Standards Group, Bureau of Standards, U. S. Department of Commerce

USUALLY we think of the Government as associated with the enactment of laws and their enforcements, the collection of taxes, the administration of natural resources and negotiations with foreign powers. There is one activity of the Federal Government, which is so recent that many individual citizens know very little about it, but which is nevertheless of vital concern to everyone, for it is designed to increase the purchasing power of his dollar.

In the Department of Commerce there is a division of simplified practice which is concerned with the elimination of avoidable waste in industry. In a restricted sense, the word "waste" means something perishable or something that cannot be utilized. There are, however, other wastes in industry, among them, those caused by too great diversity in manufacture. Because of this over-diversity, a part of every dollar we spend these days pays for waste.

The desire of certain manufacturers to produce something different from their competitors often results in flooding the market with a surprising variety of articles which show only slight and immaterial differences in size and form. This practice has clogged avenues of distribution, congested the shelves of retailers, and the warehouses of wholesalers. This condition has gone on until the disposal of such goods has been possible only at a loss. "Bargain sales," "special manufacturers' sales," "bankruptcy sales" and the like have been the answer.

I wonder how many readers have any conception of the enormous variety in which the most commonplace commodities are offered to the buying public. For example, most amateur carpenters soon or later invest in a grinding wheel to keep their tools in good condition. Suppose that in 1925 some local hardware dealer had decided to carry a full line and therefore stocked his store with one of each size, grade and type of wheel. How many would the prospective purchaser find from which to make his selection? One hundred would probably be enough to satisfy the most exacting. Five hundred surely would. Yet, our local hardware dealer in 1925 would have shown us more than 715,000 different grinding wheels! Similarly, before simplification, he would have had to carry 1,350 styles of commercial files and rasps, nearly 7,000 items of builders' hardware, over 5,000 varieties of shovels and spades, etc. Of course, no one retailer ever stocked such a variety. He merely tried to select those styles and sizes which he felt would best satisfy the local tastes.

EACH hunter is firmly convinced that one particular shotgun load is best adapted to his needs. Few of them, however, would contend that they could not find what they needed among the 1,758 loads left after the industry had eliminated more than half of the varieties it was producing in 1924.

The Federal Government, through the division of simplified practice of the Department of Commerce is cooperating with the producers, distributors and consumers in doing away with "too much variety." The division's experience with many commodities has indicated that 80 per cent of the business is done with 20 per cent of the variety offered. The producer, distributor and consumer held a joint conference under the auspices of the division to decide what and how many items can be eliminated because of being "seldom-called-for." This weeding out movement is called "simplified practice" and must be accepted by 80 per cent, by volume of sales, of producers, distributors and consumers, before it is effective.

Just how does this interest the average citizen? Housewives will recall that house-furnishing stores and departments have long carried "open stock" in chinaware and that these are the cheapest. You know that broken dishes in the "open patterns" can be replaced because they are constantly carried in stock. The "discontinued lines" are often found in the "bargain basements." Try to replace parts of such sets and see what it costs. The same condition is found with silver flatware.

LET us consider what the results of simplified practice have been on articles used in furnishing a house. Begin with the humble milk bottle. Before simplification was undertaken in this commodity, there were 49 types of milk bottles in use. These included sizes, shapes and other features, but did not affect the total capacity of the bottle. A survey of actual demand indicated that 3 sizes would adequately meet all needs. This survey also disclosed that there were 29 different sizes of milk bottle caps. Were these needed? No! So the conference developing the simplified practice recommendation went on record in favor of 9 sizes of milk bottles and one size for the cap. These are now in general use, and the "odd" or "special" sizes are fast disappearing.

Some statistically minded writer once pointed out that people spend a third of their lives in bed. If that estimate is even approximately correct, it is clear that the various parts of so important a piece of furniture should be readily replaceable. No doubt there are housewives who have met with difficulty in replacing springs and mattresses because of diversity in size. When the makers of beds, springs, and mattresses, and the distributors and users got together to consider simplified practice, a survey revealed the interesting fact that there were 78 possible combinations of sizes in these commodities. Now there are four possible size combinations for beds, springs and mattresses. This permits the interchange of springs and mattresses, as well as the change from one type of bedstead to another, whether of metal or wood.

Similar action was undertaken with reference to bed blankets, it being agreed to replace the then existing seventy-eight sizes with twelve. The adoption of these twelve sizes has in no way affected the artistry of blanket making, yet the merchants report great savings in storage space, an item which always enters into the cost of an article.

Let us assume that you are planning to build a home. The advantages you will derive from simplified practice will be many, whether or not you realize it. For example, previous to the adoption of a simplified practice recommendation, lumber was cut in a great variety of thicknesses. Approximately 90 per cent of the soft wood lumber marketed last year was in accordance with the standards shown in Simplified Practice Recommendation No. 16. Similarly the face and common brick industries have simplified the varieties in their products from 39 and 44, respectively, to one standard size.

WHATEVER type of construction is selected, the home-builder will find that simplified practice recommendations have been adopted covering a number of important items. All of these represent efforts to do away with wastes and to make the dollars spent in home-building buy the greatest possible value. Altogether, eighty simplified practice recommendations have been adopted by various industries under auspices of the division of simplified practice.

(Continued on page 206)

# Giving First Aid to a Home Economics Department

By ELSIE A. WILLCOX
Home Economics Instructor, Norwich, N. Y.

HAVE you ever been shown through a house which had just been redecorated and refurnished? If you have had that experience you probably found somewhere in the house at least one room equipped with leftovers of the old furniture which even the second hand man would not consider, and you felt, if it were a personal room, that the occupant must be rather poor in spirit to accept such surroundings. When I began my work as the only teacher of Home Economics in the newly established junior high school of a small city, I found myself in much the same predicament. The building in which I was to teach was the high school proper which lent its first floor to junior high school work. An addition larger than the original structure had recently been built. I anticipated modern, well equipped classrooms, but to my dismay my rooms proved to be located deep in the center of a basement where it would be necessary to burn electricity during all class periods. I learned also that I was expected to share my rooms for several months of the school year with the cafeteria operated by the pupils in the Homemaking Department of the Senior high school.

In the rooms where the cafeteria patrons were to eat, and where all our class work except the actual cooking was to be carried on, were several unfinished board tables and about sixty restaurant chairs which had been purchased from a defunct cafeteria. These, aside from a mirror, which made one appear very thin or very stout, according to one's distance from it; three sewing machines, one of which should surely have been pensioned; and an unfinished kitchen table which served as my desk, constituted the furnishings of the room.

I kept hoping all the year that a well lighted corner room in the basement would be fitted up for my classes. However, when the second year opened and I had been told for the "forty-leventh" time that the finishing of that room would be too great an expense, and when I saw a new piano already in high school, I decided something must be done for my department. I asked for the privilege of spending ten dollars. It was granted. The following week I talked the matter over with each class for I wanted to make it a real school project. We decided that as the room faced north we must use a color scheme which would make it as cheerful as possible. The walls were already finished in an acceptable cream color while the woodwork was a light oak, so after considerable debate we chose French grey and orange for the colors we would use.

IT was with many misgivings on my part that we began the work for my pupils were from ten to seventeen years of age and the numbers in the classes ranged from eleven to twenty-four. However, I had taken the step because of a great need and there could be no turning back.

The children purchased the supplies with my help. We bought, beside the paint, turpentine, paint brushes, sandpaper, and orange crepe paper.

The first classes of the week vigorously washed and sandpapered the chairs and tables, then about the middle of Tuesday forenoon we started to paint. Grey was used for the tables with orange as the trimming. With the chairs the order was reversed. The orange paint proved a great favorite and many were the "slams" hurled at the girls who tried to monopolize the use of it.

We agreed at the start that each girl should bring a very old dress or coverall apron to be worn while painting and that the school dresses were to be hung in the locker room in the meanwhile. A few girls forgot to bring their aprons. They were sent immediately to the auditorium where they studied under supervision and meditated upon the fun they were missing. Three girls did not remove their dresses but put their aprons directly over them. In consequence their skirts became spattered with paint before I realized it. For a week afterward I jumped every time my telephone rang, expecting to hear the voice of an irate parent of one of the bespattered ones, but those parents never gave me even a glimpse of their real feelings.

AT the end of the week we had finished applying the one coat of paint which our finances would allow. That coat, however, did hide the deficiencies of the furniture wonderfully. Of course we had had various adventures in applying it. Sometimes the orange crept onto the grey or the grey onto the orange and then there ensued an interval of scraping and repainting. There were thick spots; there were thin spots, too, but after all the results looked good to us for it was our very own work. I remember that one day while we were working a food demonstrator came to our door and standing gingerly on the threshold tried to interest us in the product she represented. She was succeeding rather well, considering the handicap of her position, when she remarked, "This is quite an undertaking, isn't it? But don't you think the orange will be hard on the children's eyes?" Like a flash one child straightened with indignation and answered, "But don't you see? We are going to sit on the orange and look at the grey."

At the beginning of the painting we had spread papers on the floor but by the end of the week these were much disturbed as to position and great patches of paint-spattered floor were visible. We were worried about the outcome but we moistened old clothes with turpentine and rubbed a section of the floor at a time with them, following quickly with sandpaper. In a surprisingly short while the floor was cleared of paint.

THE week after the painting was finished the pupils measured the windows and purchased and hemmed enough orange cheese cloth for double curtains for each window. With the aid of the highest stepladder the janitor possessed, we hung them inside the white curtains already at the windows since the orange would not harmonize with the brick of the outside walls. As the curtains were pushed back from the windows they did not obstruct what little light could enter.

From the orange crepe paper we made shades for our lights taking care here too that they did not obstruct the glow from them.

In the janitor's room I found several discarded pictures in narrow black and dark brown frames. We replaced the pictures with our most cherished posters and two prints in blue which were contributed by the scholars. When they were hung against our cream walls they made a pleasing contrast.

It was surprising to me to have my scholars do the grubby work of painting with almost no complaining. I know that the lesson of the reconstructive power of a little paint, and yes, even of cheap cheese cloth, has been carried into other homes since that time by these scholars. I valspared the tops of the tables so that it would be possible to wash them. Many of the school children and teachers who patronized the cafeteria expressed their appreciation of the improved appearance of the room in which they ate their noon meal.

Following is the account of the actual cost of our project. It will be noticed that we ran a bit over our appropriation but we were never taken to task for it.

| | |
|---|---|
| 3½ quarts turpentine | $1.75 |
| 18 paint brushes a 10c | 1.80 |
| 10 pkgs. sandpaper a 10c | 1.00 |
| 2 rolls orange crepe paper a 10c | .20 |
| 1 spool orange thread | .05 |
| 14 yds. orange cheese cloth a 12c. | 1.68 |
| 3 curtain rods a 10c | .30 |
| 3½ quarts orange paint | 2.80 |
| 3½ quarts grey paint | 2.80 |
| TOTAL | $12.38 |

# The Place of the Glass Jar in the History of Canning

By GEORGIANNA LOCKWOOD

IN the year 1810, glass played an important role in a discovery which was completely to revolutionize the food habits of the world, making possible extended ocean travel, exploring trips and the separation of the city from the country without injury to human health.

A hundred years ago, scurvy, a now practically unknown disease of malnutrition, due to the lack of vegetables in the diet, ravaged the army and navy and, to a lesser extent, the civilian population of all countries. Especially afflicted were sea-faring men who made long voyages on a diet consisting of salt meat, bread and tea. In the Crimean war, the French troops lost 23,000 men from scurvy and even as late as our own Civil War, fifteen percent of the deaths were due to this disease. The figure would have been larger, but for the timely introduction of vegetable foods by the Sanitary Commission which saved many lives.

At the beginning of the nineteenth century, the French Government in an effort to improve conditions by improving the diet, offered a prize of 12,000 francs to anyone who would devise a method of preserving foods without loss of food value.

In 1810, Charles Appert of Chalons-sur-Marne, after ten years of patient experiment, made public his discovery that food could be preserved indefinitely in a sealed bottle. His memorable work on "The Art of Preserving All Animal and Vegetables Substances for Several Years" was published by order of the French Minister of the Interior. Appert received the promised award from Napoleon and spent the prize money in the perfection of his process.

The first container used in the preservation of foodstuffs was a glass bottle with a narrow neck and closed with a cork. Various improvements followed from time to time, the cork being covered with resinous wax, the bottle neck widened, and later the spring cap and rubber ring introduced.

In the preface of his work, Appert says:

"I owe to my extensive practice and more especially to my long perseverance, the conviction:

1st. That fire has the peculiar property not only of changing the combination of the constituent parts of vegetable and animal products but also of retarding, for many years, at least, the natural tendency of those same products to decomposition.

2nd. That the application of fire in a manner variously adapted to various substances after having the utmost care and as completely as possible depriving them of all contact with the air, effects a perfect preservation of these same products with all their natural qualities.

"Before I state the details of my process, I ought to observe that it consists principally

1st. In enclosing in bottles the substances to be preserved.

2nd. In corking the bottles with the utmost care; for it is chiefly on the sealing that the success of the process depends.

3rd. In submitting these enclosed substances to the action of boiling water in a water-bath for a greater or less length of time, according to their nature and in the manner pointed out with respect to each several kinds of substance."

4th. In withdrawing the bottles from the water-bath at the period prescribed.

He gives a brief description of his method of preserving, for example speaking of the processing of vegetables, he says:

"I cause vegetables to be scalded and half-boiled in water with a little salt. I then take them from the water in order to strain them and let them cool; and afterwards put them into glass jars, and into the water-bath. I let the carrots, cabbages, turnips, parsnips and red beets remain in the water-bath while it boils one hour, and the onions, potatoes, celery, etc. half an hour."

Soups, he "prepares as for the table, allows them to cool and "then I put them in jars and given them a good quarter of an hour's boiling in the water-bath."

"On the Mode of Making Use of Substances Which Have Been Preserved" he writes: "All meat, poultry, game and fish which received three-fourths of their dressing in the preparatory process and the remainder in the water-bath as already pointed out, may, when taken out of the vessels, be heated to the proper degree in order to be instantly served at table."

Under the heading of "Practical Remarks," he observes:

"The bottles and other vessels of every kind fit for the preservation of alimentary substances will occasion but a very slight expense at one time." This written at a time when all glass jars were necessarily made by hand! "They may always be used again if care be taken to rinse them as soon as they are empty. As soon as the method is known proper bottles and jars will be met with at the manufacturers." This last is almost prophetic in view of the invention more than a hundred years later of the Owen bottling machine. "The glass-houses of La Gasse, Seves and des Premontres near Courcy le Chateau are already accustomed to the manufacture of the corks and jars necessary for the preserving process.

After a description of the laboratory and equipment which, as he himself points out, includes only those kettles, pans, etc. usually found in any well equipped kitchen, Appert continues:

"I have the precaution to keep the bottles and other vessels I may want, ready rinsed at hand, I am also supplied with an assortment of corks, compressed and bit in the instrument already described. When every preparation is thus made, the process is half done.

"The principle by which alimentary substances are preserved and kept fresh is invariable in its effects. The result in particular experiments, depends upon the fitness of each individual application of the principle to the substances which is to be preserved, according to its peculiar qualities; but in every case the exclusion of air is a precaution of the utmost importance to the success of the operation; and in order to deprive alimentary substances of contact with the air, a perfect knowledge of bottles and the vessels to be used, of corks and sealing, is required.

"I chose glass as being the matter most impenetrable to air and have not ventured to make any experiments with a vessel made of any other substance.

"Economy in corks is generally very unwise, as in order to save a very trifle in the price of a cork, a risk is incurred of losing the valuable commodity it is intended to preserve.

"Too much attention cannot be given to the sealing; no circumstance however minute ought to be neglected, in order to effect the rigorous exclusion of air from the substance to be preserved, air being a most destructive agent and the one which is most sedulously to be counteracted in the course of operation."

(Corking was done by pounding corks in by repeated blows with a bat!)

### Wide Variety of Foodstuffs Processed

#### Animal Products

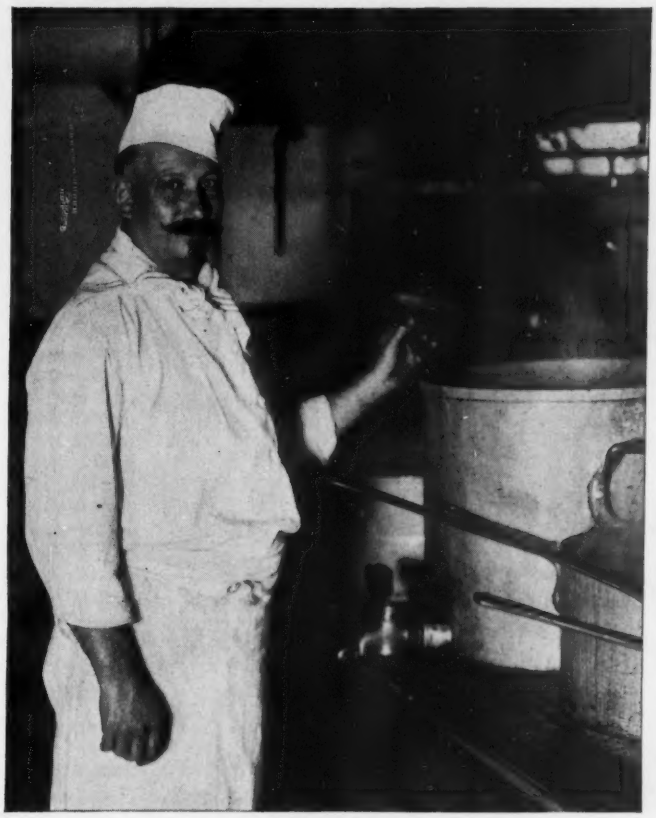
Boiled Meat, Gravy, Broth or jelly, Round of Beef, Filet of Mutton, Fowls and young partridges, New-laid eggs, milk and cream, Whey.

#### Vegetables

Green peas, Asparagus, Windsor beans, French Beans, Artichokes, Cauliflower, Sorrel, Spinach, succory-other herbs, Julienne soup, Vegetable soup, Love apples (tomatoes), Herbs and medicinal plants, Juices of Herbs, Mint.

(Continued on page 208)

# *The* BEST COOKS *use* Aluminum



*Superintendent Chef August Scheuber in the aluminum-equipped galley of the Matson liner Maui*

## On Luxurious Ocean Liners

Sun-drenched days and star-showered nights pass swiftly on the Matson liners bound for Hawaii. It would be a dull voyager who could spare a moment's thought for the galley where expert chefs labor to dull the edge of ever-sharp appetites.

But good food there must be—and is. And some little credit for it is given by the Matson Navigation Company to the fact that they cook everything in aluminum. Aluminum, they add, is easy to clean and light to handle, retains heat admirably and wears indefinitely.

Many others like to testify to aluminum's superiority—hospitals, hotels, housewives innumerable. The efficient, economical "modern metal" has become the *foundation equipment* of good kitchens everywhere.

*The best cooks use aluminum.*

MAIL COUPON FOR BOOKLET

ALUMINUM WARES ASSOCIATION
*Publicity Division*, 844 Rush St., Chicago

Please send booklet, "The Precious Metal of the Kitchen," to address written below:

# The Art of Tied and Dyed Work

(Continued from page 189)

wool dye is used add one tablespoon of strong vinegar to each pint of dye solution.

The dyebath of each color which is to be used in the design is prepared as described above. If all of the material which is not tied is to be the same color the entire piece is dipped into this color and allowed to remain until the desired depth has been obtained. When several colors are to be used in the same design only that portion which is to receive a certain color is immersed, the rest being held above the surface. RINSE IN COLD WATER AFTER DYEING EACH PORTION. After all unbound portions have been colored, the strings are removed. The portions which have been colored may be tied with enough string to protect them, and the portions which remained uncolored, because they were tied during the first dyeing operations, may in turn be dipped into various colors. In this way several more colors may be introduced into the design.

Where one color blends into another in design, a third color is produced so that many three-color combinations can be obtained with two dyes. For instance blue and red together make purple; blue and yellow together make green, etc.

Dye the lightest colors first and when the correct color is produced on a portion of the design, protect it from blending with other colors in the other dyebath, either by binding it completely or by holding it above the surface of the other dyebaths.

When the last color has been applied and the material has been rinsed in several clear waters, remove all bindings, squeeze out all excess moisture and press at once with hot iron.

Tie-dyeing may be applied not only to flat articles such as draperies, tablerunners and handkerchiefs, but also to dresses, kimonos and lingerie with beautiful and unique results.

### Textile Painting

No more popular use for dyes has ever been discovered than the fascinating art of painting on textiles. Silk is the favored material but any fabric may be used. The textile paint is prepared by adding a concentrated solution of the dye powder to a gum thickener. When painting on silk use the special dyes for wool or silk; on cotton or linen use the dyes for cotton, linen or mixed goods.

**Recipe for Gum Thickener**

½ ounce powdered gum tragacanth
1 quart cold water
1 teaspoon formaldehyde or 10 drops carbolic acid

Soak the gum in the water for 24 hours, stirring occasionally. Add the formaldehyde or carbolic acid which acts as a preservative, and beat with a fork or eggbeater until perfectly smooth. Then bottle.

Now dissolve one level teaspoon of dry dye powder in about 1-3 cup of boiling water. Small jars with screw covers or wide mouth bottles with stoppers will make excellent containers for the paint. Fill the bottles about two-thirds full with the gum thickener and then add enough of the dye solution to give a paint with the proper depth of shade. Stir very thoroughly to secure an even mixture.

The paint is of the proper consistency when it will brush on evenly without stickiness and yet not be thin enough to run. Adding a little of the dye solution will deepen the color and thin the consistency, or a little water will lighten the color and thin the consistency. If the paint becomes too thin, add a small quantity of the gum thickener.

Designs can be drawn on the fabric to be painted, but the novice will find many excellent transfer designs which some of the pattern companies have especially prepared for painting textiles. On sheer fabrics like chiffon and georgette, the designs may be drawn on or transferred to a blotter and the fabric stretched over the blotter and fastened to a board or table with thumb tacks. The design can then be painted directly on the fabric, following the lines which show through from the blotter, as a guide. The blotter will take up the excess paint and should always be placed under any fabric while it is being painted.

In painting as in dyeing, the original color of the material affects the result. For example, blues painted on a rose colored fabric would have a purplish cast and over a yellow would have a greenish tinge. White or pale tinted materials are generally used.

Brushes should always be carefully cleaned in water when changing from one color to another. Hardened paint may be removed from brushes by soaking in cold water for about an hour.

After painting let the material dry thoroughly. Then place the painted portions between two clean damp cloths and press with a hot iron to set the color. Articles decorated in this manner may be dry-cleaned or laundered in mild white soap suds. Handle quickly and carefully.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When you cook in Patapar you actually save time and trouble. Lay the prepared fish, meat or vegetable on the moistened square of Patapar; add butter and seasonings, gather the corners and edges up forming a bag, and tie tightly, with a white cord. When cooked, simply untie the bag and turn the food into a warm dish, ready for serving.

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## A Course in Art Weaving

EDITOR'S NOTE:—One of the most colorful and interesting exhibits at the Parent-Teachers Exposition held in New York City in May, was one showing how a course in art weaving was carried on at the James Madison High School in Brooklyn, New York. We asked the instructor, Miss Frieda Kean, to tell us something of how the work had been planned. The following account is reprinted from an article written for their school bulletin "High Points."

ONE of the most interesting phases of the work of the Department of Art in the James Madison High school is the course in art weaving. When it was first introduced it was regarded as an experiment in training of a vocational nature. There lurked in the back of our artistic consciousness an unconfessed feeling that we were providing an elective study eminently fitted for girls not given to intellectual pursuits, something that they could achieve almost with their hands alone. The course in the theory and practice of art weaving given at the College of the City of New York is described in its bulletin as one designed "to develop skill in the art of weaving, with exercises suitable for normal, ungraded pre-vocational, and vocational classes."

Whether we erred in our estimate of the students or were not sufficiently aware of the scope and appeal of the subject, or whether we neglected to allow adequately for the inspiration of the teacher, we cannot tell. But the fact remains that art weaving is no longer experimental. The registration has increased by leaps and bounds and we shall probably have to secure an additional teacher next term. The students apparently refuse to regard the subject as merely vocational. They seem to be taking it as "art for art's sake." Room 321, with its quaint looms, its exotic colors and patterns, its rugs and its laces, has become one of our showrooms. Art weaving has become an integral part of the study of art in our school.

Art weaving has assumed this importance in a large measure because it possesses the virtue of being able to translate the aesthetic impulse into a work at once beautiful and useful. Too many of the subjects in the curriculum of the high school seem to the student too theoretical, too academic, too little related to the lives they lead. We teachers are continually confronted with the problem of interest and motivation; and we often have to teach without having succeeded in enlisting either. We console ourselves by naming this procedure "discipline." In our present civilization, much of our art seems a thing apart from everyday life. But the student finds for her art weaving an application immediate and alive. Therein, we believe, lies its appeal.

We must recognize, too, that there is in this work a moral influence not to be overlooked in these troublous times. Rugs, tapestries, embroideries and laces are things for the home.

A thorough course in art weaving would easily provide sufficient matter for every one of the eight terms in the high school. The courses offered at the City College cover the study of the origin of the art of weaving, the Kelim, Persian and Turkish rug, Oriental color combination, design and dyes, Brussels, Gobelin and French Gobelin tapestries, lace-making, embroidery, Hardanger, Macrame and other kindred arts.

The history of the oriental rug alone is a fascinating study and provides many opportunities for correlation with other subjects in the high school curriculum—the development of the oriental design, the materials, the loom, color combination, color symbolism, the religious influence in pattern, the migration of pattern, a story uninterrupted from the time of the earliest tent-dwellers to the present day. In the hands of a skillful teacher, art weaving can be made as practical, as artistic and as cultural as you please.

We have discovered a vein of rich interest. We consider art weaving a valuable addition to the high school curriculum.


# Why Don't You

write to Miss Marye Dahnk . head of our Home Economics Dept., for some of the interesting and helpful literature we have prepared on cheese and its uses? Cheese is such an important food that no one should be without a thorough knowledge of the great variety of ways to serve it as well as its dietetic value. This literature is free, just check off on the coupon below copies you would like and it will be a pleasure for us to send them.

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*Your influence in stimulating wholesome food habits is important*

The influence of women trained in Home Economics upon the food habits of children placed in their care cannot be overemphasized. The school lunchroom plays an important part in the life of every child. Habits formed there will make themselves felt in the home life of the child and in later years.

Good nutrition should be the first aim of every teacher in planning meals for the school lunchroom, and good nutrition means foods prepared with wholesome ingredients.

Crisco, the all-purpose cooking fat, is particularly well suited to the preparation of foods for the growing child. It is wholesome, digestible, purely vegetable and packed under the most sanitary conditions.

A booklet entitled "A Manual of Cookery" contains recipes for using Crisco in a variety of interesting ways. If you would like a copy, mail us the coupon below.

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Please send me, without cost, a sample copy of the "Manual of Cookery."

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## Convention on Notes

(Continued from page 184)

ested in a technical way in nutrition standards should read Dr. Hawley's "Standards of Nutrition."

In the extension meetings that were held on Saturday, those devoted to the question of nutrition took up the subject of "New Findings in Prenatal and Child Nutrition," which was discussed by Mabel Nelson of Iowa; "The Subject Matter for the Nutrition Program," by Miriam Birdseye, Extension Service, United States Department of Agriculture; "The Development of Children's Teeth," by Dr. George H. Wardell, Director of the Department of Dental Hygiene, the State University of Iowa, and "Nutrition Program for Girls' Clubs," by Edith Barber of Iowa. It has been found by nutrition workers in Iowa that the girls in the clubs could have their interest in nutrition tremendously stimulated by teaching them that good health is a means to physical beauty. Certainly, home economics teachers who come in contact with so many girls during the year should be able to make very wide use of this suggestion.

*Student Clubs*

Student clubs were especially well represented at this convention. There was a luncheon held on Tuesday at which delegates were present from fifteen high school student clubs and fifty-eight college student clubs. Miss Isabel Bevier was the principal speaker, and in her very interesting talk advised the students to look up the history of the progress of home economics in schools; to find out what leaders of home economics have done and are doing; to study their local situations and to select the most needed service in their schools.

Miss Lita Bane, president of the American Home Economics Association, greeted the students at their first general meeting. Mrs. Eda Lord Demarest told them of various methods of teaching home economics in the other lands, and illustrated her talk with pictures.

The college clubs elected as chairman for the coming year Mary Martiny of Buffalo, State Teachers College; as secretary, Alice Haynes of Simmons College; as news gatherer, Beatrice Iler of Iowa State College. In the high school group the chairman elected was Zeneila Clayton, North High School in Des Moines; secretary, Betty Larson of the same school, and news gatherer, Eloise Fewell of Marseilles, Illinois.

There were so many other items of interest, it is hard to select from among them. Certainly, among the high lights of the convention must be mentioned Miss Lita Bane's address at the first evening's meeting in which she outlined briefly the growth of the American Home Economics Association which has now been organized for twenty years. In speaking of the new plans and the changes that have come about in the program of home economics, Miss Bane said: "I believe we need more of what has been called 'culture home economics.' Perhaps we could accomplish this in part by indicating to home economics students when they enter the home economics course something of the total problem of homemaking and pointing out to them the fields of study and the arts and sciences that contribute to the solution of these problems. Perhaps then they would approach the fields of study with more interest and insight and would come away from them with more and better material bearing on home problems. Not only must we keep abreast of rapidly changing fields of subject matter, but we find ourselves called upon to interpret the needs of a rapidly changing home—a home in an entirely new setting, a money dominated economy, a machine run and highly specialized age * * * * Home economics stands in a strategic position in that we should be able to bring together and build into a temporary force those forces which make for wholesome human living."

Another very high highlight was the visit that was made to Ames on the last day of the convention. Our thanks to Dean Fisher and all the other people there who entertained us with so much hospitality. It was a most enjoyable trip, worth while, stimulating and interesting in every way.


# Plenty of variety Here
## . . *for the busy housewife*

**Every woman who does home demonstration work again and again hears the plea: "Teach us how to get variety into our meals." There's plenty of variety in one jar of Beech-Nut Peanut Butter. This rich nut flavor fits into all kinds of recipes. Cake fillings and frostings, salads and salad dressings, assorted combination sandwiches, are a few suggestions. As for the children, this delicious and wholesome food can be used in many ways to break the monotony of their diet.**

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# Beech-Nut Peanut Butter

## Improving Food Standards in Utah

WITH a goal of reaching 400 farm homes in Utah to teach better food practices, a research worker at the Agricultural Experiment Station far surpassed the mark when 4,322 homes reported better food practices. This worker had found that in certain sections of the State, either boiled or fried food is usually served, with very little variety in the daily menu. The method by which the farm women were brought to different and better standards for the family meals was to teach new ways of preparing the food.

In order to reach as many people as possible local leaders were chosen from various community groups. These leaders were given their training in the subject by the State nutrition specialist, the home demonstration agent or a project leader. Every project leader had attended an intensive ten-day training school at the State College which equipped her for this particular work.

Improvement in food standards was realized in the 4,322 homes because the farm women learned to prepare salads, milk dishes, vegetable dishes, meat substitutes, simple desserts and sandwich fillings. At the same time, moreover, they were taught the nutritive value of the various foods with which they were working.

From "The American Child Health News."

## Home Furnishing Project

HOME economics departments in senior high schools in the United States are directing their energies to many practical subjects. According to the Bureau of Education, United States Department of the Interior, which has been making a study of home management classes in such schools, a class in the senior high school of South Bend, Ind., selected for its contribution to "Better Homes Week" for 1928, the problems of the purchase and furnishing of a small home with a limited sum. The following assumptions were made by the class: (1) Annual salary $2400; (2) Accumulated savings on hand $1600; (3) Cost of house to be purchased $6400; (4) House to be purchased through land contract.

The class based the cost of the house upon estimates advocated in Government bulletins, that is, the cost of a home may be approximately two and one-half times the annual income. Hence, if the house is purchased on land contract 10 per cent of the value must be paid down and the rest paid in monthly installments consisting of 1 per cent of the balance.

This plan according to the class makes ownership possible in about eight years and six months.

Of the $1600 accumulated savings $600 is paid down on the home and $1000 is spent for furnishings, leaving no debt except the home encumbrance. The class distributed the $1000 for furnishings as follows: Kitchen, $115.50; dining room, $225.68; living room, $323.00; bedroom, $296.30; bathroom, $35.00.

The class proposed the budget given below for the distribution of the annual salary of $2400 which it assumed was needed to maintain the home planned at an acceptable standard of living.

The budget allowed for: Food, 22 per cent; shelter, 33 per cent, consisting of monthly installments of 1 per cent of the total indebtedness on the house, taxes and insurance; clothing, 14 per cent; operating expenses, 12 per cent, covering coal, light, gas, water, and general upkeep; higher life, 7 per cent including premium on life insurance policy, dental and medical service, recreation, such as concerts, theatre, books, current literature, and the daily newspaper; and savings, 12 per cent.


Uncle Jake says—

*"Cemeteries are full of grave mistakes."*

Some of life's mistakes are made ignorantly, but the majority of them are made carelessly. A manufacturer may make mistakes, but he should rectify them before his product reaches the purchaser.

Our research department is a mistake detector that is always on the job, hence when you use

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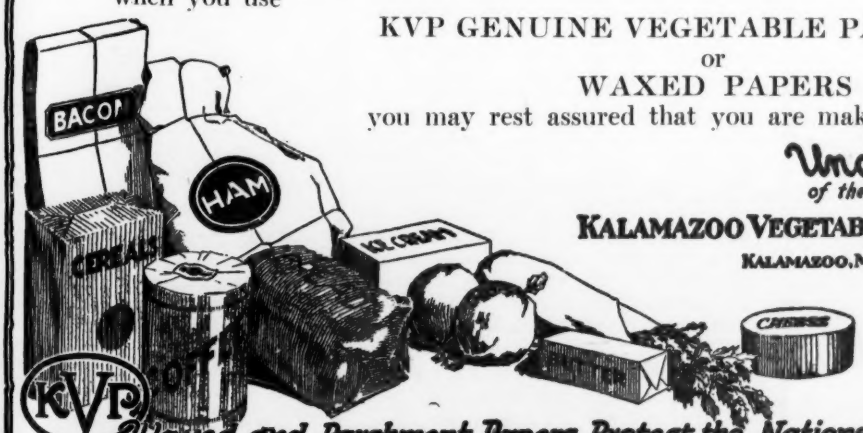
you may rest assured that you are making no mistake.

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## Sources of Material for use of Home Economics Teachers

Below are listed booklets and other helps to home economics teachers. Send your request direct to the manufacturers, being sure to ask for material mentioned in THE HOME ECONOMIST.

*Height and Weight Charts*

An approved chart for boys and girls showing weights for different ages and heights. A copy should be in every child's hands to show them the importance of proper nutrition. 5 cents a copy. In lots of 10 or more 2 cents each.

THE HOME ECONOMIST
468 Fourth Ave. New York

*A Catalogue of Special Diet Foods and Equipment*

A booklet listing foods and equipment adaptable to the diabetic or obesity diet. Helpful to dietetics instructors offering diet in disease to college students.

The Chicago Dietetic Supply House,
1748 West Van Buren St.,
Chicago, Ill.

*"Sunland Cookery"*

A monthly bulletin devoted to dried fruit cookery with historical data, laboratory research, and recipes. Sunland Cookery Club Recipe Book, for girls of grammar and junior high school. The Story of Dried Fruits, with 80 recipes.

Sunland Sales Cooperative Association,
Fresno, California.

*Teacher's Outline for a Domestic Science Course*

A series of interesting bulletins with lesson plans.

R. B. Davis Baking Powder Co.
38 Jackson Street, Hoboken, N. J.

*Sunkist Domestic Science Bulletins*

A series of monthly lesson leaflets furnished in quantity for class distribution during eight months of school year, to home economics classes. Fruit recipes.
A School Lunch Bulletin and diet booklet, "Telling Fortunes with Foods" will also be sent.

Dept. H. E., California Fruit Growers Exchange, Box 530, Station C.,
Los Angeles, California

*"The Art of Making Bread"*

Beautifully illustrated booklet, containing chart, picturing and explaining every step in bread-making. Also Wall Chart for Class Use and Outline of a Course in Bread Making.

Northwestern Yeast Co.,
1750 North Ashland Avenue
Chicago, Ill.

## The Home Economics Boys

By HARRIET MORGAN, M. S.
Instructor, Department of Foods and Dietetics, Utah Agricultural College

THE tradition that the food preparation course at the Utah Agricultural College is for "girls only," was sidetracked last fall when four college fellows registered for the course. Their entrance into realms formerly feminine, besides giving the instructor a pedagogic thrill, was a curiosity to all and they were soon dubbed the "Home Ec" boys.

Conditions necessitated placing the fellows in the same class as the girls, and the question immediately arose, "What will be appropriate to wear in a cooking laboratory?" The regulation white kimona style apron worn by the girls obviously was not suitable for them. However, undaunted by such a mere trifle, they held a consultation and by the next class period each had provided himself with a short barber's coat, which served the purpose adequately and comfortably.

The first class project was bread making. "The first laboratory was hectic," said one of the fellows, "for not knowing the art of kneading bread, the dough stubbornly stuck to my fingers as well as to everything else on and in my desk!" The embarrassments and failures of those first afternoons in the laboratory were soon forgotten when they succeeded in making and baking loaves of bread which scored above 90 per cent. And by Christmas time they were able to show their girl friends and sisters how to make candy!

Pastry, cake, meat and vegetable cookery were studied and in each case the fellows succeeded in holding places coveted by the co-eds. Their earnestness created a keen competitive spirit among all the class members since the girls were unwilling to have their products inferior to the ones prepared by the boys.

The real glory de Cuisine came to the "Home Ec boys" in the meal planning and table serving projects when they successfully discharged the duties of host. The members of the class agreed unanimously that the dinners were realities because a father as well as a mother was present to preside over the family meal.

Since modern girls have usurped many practices which heretofore have been the prior right of fellows it is but natural that they should want to become acquainted with some tasks once thought to belong to girls only. The "Home Ec" boys of the Utah Agricultural College have proven that those of the sterner sex can acquire skill in at least one of a girl's traditional tasks—the culinary art.

## The Story of Textiles

(Continued from page 186)

may not have given thought to the origin of the deep, shimmering fringe and tassel on the lamp shade, nor to the silky-lace curtains gracing our windows. Indeed, rayon has even found its way into our rugs, and the most successful pattern ever made was a copy of a very valuable silk prayer rug—and the demand for it was largely from India!

It is sometimes economical to use rayon in lieu of silk, but in the realm of interior decoration, as in dress fabrics, rayon does not depend upon economy for its popularity. Its variously bright or deep luster, its gorgeous patterns, its steadfast colors, and its beautiful harmonious cross-dyed effects when combined with other fibers, give it a place of supremacy.

In any first-class store one is shown velours of rayon; curtains and draperies of rayon; gorgeous tapestries and brocades that combine silk and rayon; alluring patterns that have a surface of rayon with cotton underneath to bind the threads of rayon together.

In plush goods, rayon was first used as a substitute for spun silk, but it gave the fabric a richer, more lustrous appearance and it is now used instead of silk to a great extent in velours and draperies, as well as in other plush materials such as coatings, imitation furs, etc.

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## *Here's the New Salad Bowl!*

*Martha Adams' Latest Triumph*

MARTHA ADAMS and her assistants of the Best Foods Home Economics Service have now added the new Salad Bowl to the Best Foods Library.

The new Salad Bowl is attractive in appearance, with its bright illustrations. Moreover, it contains many new recipes and suggestions for delicious salads—all written in a most interesting fashion.

You will find in this booklet, the proper salad for the proper time. Salad as *hors d'oeuvre*. Salad to be served with the meat course. Salad as dessert—as a complete meal in itself.

You will enjoy reading this new Salad Bowl. It contains much valuable information.

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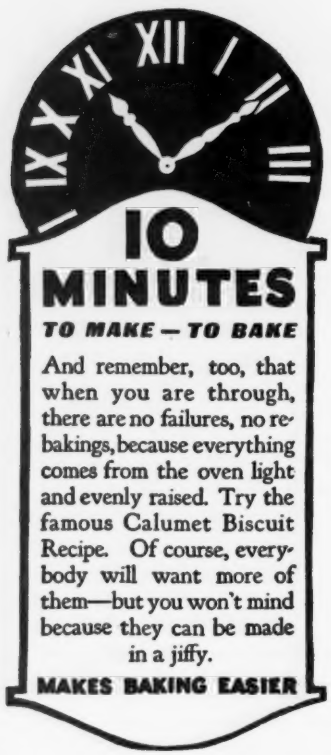
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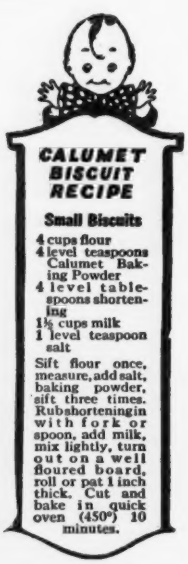
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RECIPE
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4 level tablespoons shortening
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1 level teaspoon salt
Sift flour once, measure, add salt, baking powder, sift three times. Rubshorteningin with fork or spoon, add milk, mix lightly, turn out on a well floured board, roll or pat 1 inch thick. Cut and bake in quick oven (450°) 10 minutes.

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BAKING POWDER

## Home Economics in Relation to the History of Education

(Continued from page 183)

economics. Vassar felt the need for study of family relationships, needs of the child and training of parents, and opened a summer school for the study of euthenics, the science of right living. At Cornell, the aim of the nursery school is the training of parents. So today the family as a whole and individually, is the center of the wheel around which the various spokes of education lead to the completed circle of health, happiness and service.

Bibliography Relating to Subject

Democracy in Education J. K. Hart
J. K. Hart
History of Education
Stephen P. Duggin
Women's Share in Primitive Culture
O. T. Mason
Primitive Family as an Education Agency
A. J. Todd
The Family as a Social and Educational Institution
Willystine Goodsell
Education of Women
Willystine Goodsell
Monroe's Cyclopedia of Education
Training of the Girl
W. A. McKeever
Social Life of the Greeks
Lida Bencroft
Education of Women in the Renaissance
Agnes Mary Cannon
Vocational Education of Girls and Women
Albert M. Leake
Social Life of the Greeks
Alice Blumner
Charicles
Prof. W. A. Becker
Gallus
Prof. W. A. Becker
Home Life in Colonial Days
Alice M. Earle
The Private Life of Romance
H. W. Johnshon
"Thoughts"
Marcus Aurelius

## Home Economics Education in the Public Schools

(Continued from page 181)

Another change for marked improvement has been the higher qualifications set up for teachers—a four-year teacher training course, being maintained in a number of universities and colleges, so the majority of teachers are now fitted to do a better piece of work than formerly and have a vision for developing a program of the future.

It is gratifying to hear principals and superintendents of schools, on several occasions, express their belief in this type of training, and not hesitate to say they feel that every girl should be required to have at least one year of this work before graduation. Several high schools in this state have this requirement and have found it successful. When we realize the attendance in the evening schools is voluntary, may we not be encouraged to proceed with a vision of still greater success for the next ten years of Home Economics Education in the public schools.

## Book Reviews

(Continued from page 191)

Jenner, and goes on to record the marvelous discoveries resulting from his scientific studies.

Mention is made on Page 1 that, "The Metropolitan Life Insurance Company has issued for special use in the schools, a brief history of Edward Jenner's life, by the authors of this book. The company has also prepared a film strip dealing with this subject. Both booklet and film strip are obtainable without charge."

Among the illustrations of the book are portraits of Oliver Goldsmith, author of The Vicar of Wakefield, George Washington, our own national hero, Benjamin Waterhouse, who performed the first vaccination in America, and Thomas Jefferson, an early champion of the cause of vaccination against smallpox.

As supplementary reading, in elementary classes, the book on the life of Edward Jenner holds forth promise of real interest.

## Home Managers Benefit Through Waste Elimination Program

(Continued from page 196)

Such reduction as these are of immense value to the consumer, but if the same plan is put into effect by all of the concerns engaged in making the same class of commodities, it is reasonable to suppose that the effect will be cumulative, and the benefits to the consumer multiplied. Economies which are gained by the manufacturer and distributor must be passed on to the consumer in any competitive business, either in reduced price, more goods for the money, or better values.

From the standpoint of the homemaker, simplification is a step in the direction of thrift, and prudent expenditure of the family funds is made easier. Support of simplified practice and a further influence as a consumer for an extension of the simplification program is a matter worthy of the homemaker's best efforts.

As we help through our daily purchases to encourage the elimination of unnecessary variety in the goods that satisfy our wants, we hasten the elimination of waste in industry. And as these wastes decrease, the purchasing power of our dollars increases, and our cost of living will consequently be lowered.

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## A Health Lesson Through Feeding White Rats

AN enterprising teacher in a junior high school at Austin, Texas, let her students prove to themselves that milk is one of the very best foods. The students supervised the feeding of six interesting white rats. They fed all the little animals the same proportion of corn meal and water. But for one rat they added whole milk; for the second, skim milk; for the third, chili (a combination of ground meat, red peppers and flavoring); for the fourth, coffee; for the fifth, coco-cola; and for the sixth candy. The rats had all started out even—full of energy, clear of eye, and possessed of a healthy coat of hair. At the end of three weeks, however, there was an immense difference. Only the rat fed on whole milk had gained in weight and even in appearance. The second, fed on skim milk, was not in anything like so good condition as the first; and all the others had grown miserably thin, lost their vitality and lustre of their eyes, while their hair had become rough and dry and coarse. When the three weeks were up, the whole six rats were put on the good and nourishing diet of corn meal and water plus whole milk. At once those which had lost began to pick up and return to normal, and the first rat, Frisky by name, continued to show every evidence of good health and so to deserve his name. Such an experiment can easily be made in schools of the most limited equipment. The interest of the children is very deep, first because they enjoy the live animals and second because they themselves are in command. The results of the feeding convince them once and for all and a health lesson in nutrition has been put over in an effective and lasting manner.

*From "The American Child Health News."

## A Nursery School Cooperative Enterprise

THE American Child Health News" tells of a unique piece of child welfare work conducted by the Mary Crane Day Nursery, in connection with Hull House, Chicago, Illinois.

All the organizations interested in child welfare cooperate to make the work there successful. The Nursery Kindergarten and Elementary College take care of the school activities. The Infant Welfare Society of the city provides physician, nurse and dentist, keeps the weight and height records of the children and furnishes violet-ray treatment for those who need it. Nutrition and health work for older children whose little brothers and sisters come to the nursery school are directed by the Elizabeth McCormick Memorial Fund; while the social service and relief work in the homes is carried on by the United Charities.

In addition to all this correlated effort to give childhood its chance at full and free development, a most important contribution is made by the Institute for Juvenile Research of the State Department of Public Welfare, of which Dr. Herman M. Adler is director.

By the splendidly efficient plan of cooperation on which this nursery is conducted every phase of a child's life is covered. At the school itself the child lives and grows in a child's world with grown-ups keeping distinctly in the background. Here it unconsciously learns good habits and has the advantage of proper physical care and a happy environment. Meanwhile, the necessary instruction is carried into the homes where workers have found parents only too anxious to learn and practice the right methods with their children. All the work, moreover, is carried on by those groups that are equipped with necessary personnel and technique for the special problems with which they have to deal. The ordinary day nursery, dependent on its own necessarily limited staff—however expert that staff may be—could not hope to cover the ground with equal thoroughness. Nor does the opinion of any one dominant personality determine what needs to be done and how to do it. The plan in the case of each child is the result of cooperation on the part of all.

## Home Economics with a Trade Association

(Continued from page 193)

associations have presented greater difficulties in this matter than has this for the national advertising copy has always been carefully edited and the officials have been careful in statements made.

Dr. Eddy has said, "There are honor and ideals in industry and we are willing to cooperate with those who possess them." He has expressed the very great change which has taken place on the part of the men in both industry and science.

## Pamphlets Received

"Heat Penetration in the Pasteurizing of Syrups and Concentrates in Glass Containers." By J. H. Irish, M. A. Joslyn and J. W. Parcell. University of California Printing Office, Berkeley, California.

"Fruit Juices and Fruit Juice Beverages." By John H. Irish, University of California Printing Office, Berkeley, California.

"Artificial Incubation of Eggs." By J. E. Dougherty. University of California Printing Office, Berkeley, California.

"A Comparison of Evaporated with Pasteurized Milk as a Source of Calcium, Phosphorus, and Nitrogen." By Alice C. Willard and Katharine Blunt. From the Nutrition Laboratory of the Department of Home Economics of the University of Chicago.

## The Place of the Glass Jar in the History of Canning

(Continued from page 198)

**Fruits**

White and Red currants in bunches, White and Red currants—stripped, Cherries, Raspberries, Mulberries, Strawberries, Apricots, Peaches, Nectarines, Juice of Red Currants, Prunes from Green Gage plums, Pears of all kinds, Chestnuts, Truffles, Mushrooms, Watercress.

While Appert set forth the principles upon which present day commercial production of food packing is based, science has steadily developed the art to its highly efficient stage of today.

A translation of Appert's work appeared in England in 1811 and seventeen years later the food packing industry was started in the United States. The records available show that one William Winslow was packing preserves and table condiments in glass as early as 1828 and in 1836 he was packing tomatoes in glass.

Housewives learned that they also could successfully preserve food stuffs during the season when fruits and vegetables were cheap and plentiful, stocking their larders against the season when such foods were expensive and difficult to obtain.

With the invention of modern bottling machinery, the necessity for expensive hand blowing was eliminated, making possible volume production of a superior container of uniform strength and good appearance, which quickly won public approval. Housewives like the idea of seeing what they buy before they pay for it, satisfying themselves that the food bought is a full pack of the quality desired. Packers are willing to pack in glass only those products which they are confident can pass this eye inspection test.

At cooking schools recently held under the auspices of local newspapers in more than a hundred different cities of the United States, glass-packed products were used exclusively by the demonstrators in their preparation of salads, pies, garnishes, in fact the preparation of entire meals in some cases.

Every effort is made within the industry to maintain and raise the quality ideal in food packing. Food is received by the packer within a few hours of the time it has left the farm and is immediately packed according to scientific principles and under strictest supervision.

The selected quality of products now found on sale in glass in nearly all stores accounts for the slightly increased cost, not the glass in which they are packed, for the glass itself is only a trifle more expensive than other containers used for the same purpose.